ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF
THE ILLINOIS STATE MEDICAL SOCIETY

ENTERED AT THE SPRINGFIELD POSTOFFICE AS SECOND-CLASS MATTER

VOL. XXIII SPRINGFIELD, ILL., JANUARY, 1913 NO. 1

ORIGINAL ARTICLES

A PIONEER MEDICAL SCHOOL*

CARL E. BLACK, A.M., M.D.
JACKSONVILLE, ILL.

Medicine is a very difficult and exacting calling, in that while one may not have a large clientele yet it consumes all the time. This is true of general practice and also of a number of the specialties. While the range of study in the science and art of medicine is so broad that no man could compass it all in a life-time, yet it is impossible to constantly pursue one line of study. Nor would it be best to confine one's thoughts and study constantly to scientific data or to the technical details of treatment. A variety in study will give far better results. One of the most enjoyable and at the same time most profitable avenues of thought and study, whether it be as a profession or as a recreation, is history. No other line of reading is so elevating as the well-told story of the life of successful men who have gone before and left us a record of their ambitions and their successes; their failure and their achievements.

There is far too little attention given to the history of our profession by its members. For these reasons I desire to relate something of what I have so much enjoyed finding out about a little pioneer medical school. It had ambitious teachers with fond hopes for the future. It was founded by those who had a care for the future, and a desire to serve. It has a place in the history of our nation, and our state, as well as in the pioneer community in which it was located.

A little more than a century ago the country of "The Illinois" was one of the world's waste places. Hardly had the Tory English been beaten back to the lakes by the pioneer army of George Rogers Clarke, and the fierce and dogged resistance of the Indians of the northwest territory been broken by the victorious host of "Mad" Anthony Wayne when the pioneer settler began to seek out the choice spots of prairie-

*Read before the "Society of Medical History" Chicago, Dec. 14, 1911.

bordered woodland for the building of his cabin home. Marquette and Joliet had visited the "Illini" country and in the name of their sovereign had taken possession and called it "New France," which act was confirmed by the historian and priest Hennepin, and the knightly adventurer and explorer La Salle. While the knights and scholars and priests of France and Spain were the first to view the rolling prairies, the flowing waters, the rich and varied woods with their sweet singing birds and teeming animal life, it was not the plan of destiny that their masters should be other than the temporary possessors of the beautiful valley of the Mississippi with its boundless but undeveloped resources.

Probably nowhere in the world has the three-fold conflict of national development been so clearly and beautifully illustrated as in the subjugation and settlement of the northwest territory. The first conflict was with the original inhabitants—the Indians. No settlers have ever met a fiercer and more brutal resistance than that of our American Indians. They were past masters in that murderous treachery which glories in striking the enemy in the back, and in the dark, and in murdering and scalping innocent women and children or, far worse, carrying them off into the horrors of captivity. The terrors of this conflict fill volumes of the most thrilling and ofttimes revolting chapters of early pioneer life. The solitary hunter killed while taking his noon-day drink at the spring; the traveler lured on to certain death by his concealed foe; the pioneer murdered in his field before the eyes of his wife and children; the soldiers led into ambush to be slaughtered and scalped—such were the victims of the stealthy foes of our pioneers.

Hardly less to be dreaded were the white foes; one race seeking by every means, fair or foul, to gain and hold the ascendency over the other. The artful diplomacy of the French; the intrigues of the Spanish and the grasping avarice of the English constituted the hard school of early life in which the infant colonies of America were taught. It was not only a conflict of struggling colonies with foreign states, but often colony was set against colony. The disagreements of Virginia and Carolina between themselves, and with the national government, made the state of Franklin impossible, and almost allowed the separatists to carry Kentucky over to the intrigues of the Spanish. But the problems of subduing the redmen and appropriating their vast hunting grounds to a useful purpose and the task of overcoming our English and Spanish foes were simple compared with the problem of opening up the fields, cutting out the forests, building homes and towns, bridging the streams and overcoming the natural obstacles in the way of planting an enduring civilization in a new and wild country. Imagine the courage it must have required to accomplish the task of hewing out of the great prairies and forests skirting the streams of the hunting grounds of the "Illini" our present-day civilization, and you will have a faint conception of the giant fiber of our pioneer ancestors. They were unpolished, often uncouth, and sometimes harsh and even brutal, but always spurred on by a purpose to accomplish something enduring for the future. What they lacked in the education and polish of the schools was made up by the unshakable foundation of

Fig. 1. "Old Beecher." The first college building erected (1829) in Illinois. Now used as a home for literary societies of Illinois College.

primary principles. They believed in the home and came to the new country to build and enjoy its privileges. They sought freedom and planted here the seeds of the most democratic of institutions. Few of the early settlers had the advantage of much "schooling" and yet all of our early laws and ordinances show the widespread belief in the necessity of general education as the basis of a free and democratic state. For this reason the few who were educated in the schools of the colonies, or foreign states, were appreciated to an unexpected degree.

We find in Morgan County (Illinois) that while most of the early settlers were offshoots from Kentucky, Tennessee, and the southeastern colonies, there was immediate recognition of the school training possessed by the college-bred men from the older colonies of the east.

The sound of the woodman's ax was still ringing out the blows to hew the logs for the settler's first cabin; the wolf, wild turkey and deer were to be seen from the cabin door; the prairie grass waved in the summer

Fig. 2. Showing Illinois College in the distance. Taken from an old Mitchel's Geography, used in the early schools of Illinois.

breeze, undisturbed by plow or fence; the Indian hunter in his dirty blanket and tawdy finery was a frequent visitor, when a consecrated band of Yale students first came to the "Illinois." When Illinois became a state in 1818 most of its inhabitants were south of the mouth of the Illinois River. The first settler in Morgan County did not build his cabin until the fall of 1819, and the county of Morgan was not organized until 1823. It was two years later before the group of cabins near the forks of the Mauvaisterre received a municipal identity as the town of Jacksonville. Yet in December, 1829, when the town had only 600 to 800 inhabitants, the scheme of the educational pioneer, Rev. John M. Ellis, was consummated by the christening of Illinois College and the opening of its first building—the first college in Illinois (Fig. 2).

This first building (See Frontispiece, "Old Beecher"), surrounded by seven other large buildings all fully equipped, still stands on its beautiful hill, in the midst of comfortable homes and overlooking a beautiful little city, although originally erected in the edge of a grove of natural forest and overlooking unending stretches of prairie. In January, 1830, the first class of nine students assembled on "the hill" and met the solitary instructor and all there was of the faculty—Rev. J. M. Sturtevant (Fig. 3).

What that teacher said to the assembled class on that memorable first morning when this college began work was typical of the spirit of the times, "We are here to-day to open a fountain where future generations may drink." The classes grew. The faculty grew. Ambition to provide education for our people ever led them on. Little more than ten years had passed when we find the Board of Trustees by formal action:

Fig. 3. Rev. Julian M. Sturtevant, President of Illinois College from 1844 to 1876.

Resolved, That departments of Law, Medicine and Theology be added to the existing departments of this institution, and that professors be appointed in these several departments as soon as shall be judged expedient.

Resolved, That the Prudential Committee, in connection with the Faculty, be a committee to report at the next annual meeting, a plan for carrying into effect the preceding resolution and that they be authorized in the meantime to take the preliminary steps necessary for the commencement of instruction, or the raising of funds if they shall judge it expedient.

In this language, and by the truly great and devoted pioneer educators represented in the board of trustees and faculty of this first college of Illinois, was conceived the first medical college. It was a noteworthy and a noble purpose designed to provide competent care for the sick and suffering of the infant state.

A peculiar feature of the settlement of this glorious free country was the almost universal determination toward future greatness. This was preeminently true of the settlers of the northwest territory. Naturally one of the first thoughts of the people was for proper care of their families when sick. They saw the necessity for competent physicians. There were only a few in the territory and these were much scattered and had to travel long distances to the sick and therefore could not render effective services. Consequently one of the first cares was the establishing of a medical school. Such an undertaking was made possible by such enthusiastic and broad-minded physicians as Dr. Samuel Adams and Dr. David Prince (see Figs. 4 and 5).

At the meeting of the Board of Trustees in June, 1842, "reports were made by the faculty on the subjects of medical and law departments in

Fig. 4. Dr. Samuel Adams, Professor of Chemistry in Illinois College and its medical department, 1843-8.

the college, which were read and referred to the prudential committee with full power to act in the premises as the interests of the college shall require." In June, 1843, on report of Dr. Adams of the faculty it was:

Resolved, That it is expedient to establish a Medical School in connection with this institution, to be under the control of the Trustees, and that immediate measures be taken to carry into effect a plan for the above object, provided the same shall be without expense to the College Treasury.

Resolved, That we now proceed to elect Professors to fill the following departments of instruction in said school.

1. Anatomy and Surgery.
2. Chemistry and Materia Medica.
3. Theory and Practice of Medicine.
4. Obstetrics and Diseases of Women and Children.

Resolved, That the faculty be authorized to make such regulations for the management of the Medical Department as they shall deem necessary.

Resolved, That the agent be authorized to lease to the Medical Department, such public rooms in the Chapel—including the north attic—as the Academical Faculty shall think can be spared from the purposes of the Academical Department.

It would seem from the terms of the above resolution that the business affairs of the medical school were kept entirely separate and that this department was not only required to pay its own way but to pay rent to the Literary College for the use of part of its rooms. The reference to the attic is suggestive of the study of anatomy and dissecting—a subject which played a very important part in the future relations of the medical school to the community. On account of its dissecting room and the necessity of securing anatomical material from the neighboring graveyards this school was literally a terror to the community, which stood

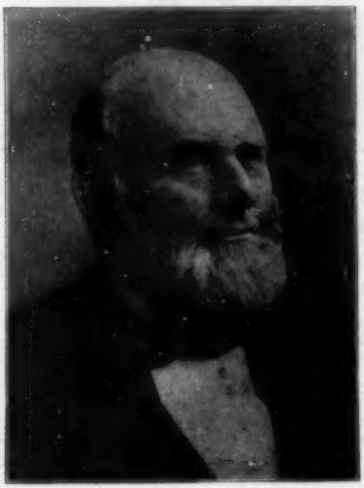


Fig. 5. Dr. David Prince, Professor of Anatomy and Surgery in the Illinois College Medical School, 1843-8.

ready to hang the doctor to the nearest tree who was guilty of malpractice, and to lynch him if he took steps necessary to acquire a sufficient knowledge of anatomy to make himself proficient.

"The following persons were then elected to fill the several professorships above mentioned, viz.: anatomy and surgery, James Prince[1] of Quincy; chemistry, etc., Samuel Adams, M.D., Illinois College; obstetrics, etc., Henry Jones, M.D., Jacksonville. Theory and practice of medicine referred to the prudential committee to fill."[2]

(1) Undoubtedly this should be David Prince instead of James.

(2) The first announcement of the Medical School shows that the chair of the Theory and Practice of Medicine was filled by Daniel Stahl, M.D., of Quincy, who is described as a Hessian Jew. A short, stout man of quick, nervous movement and very lively and popular with the students. The catalogue also states

Thus after two years of maturing plans the medical department conceived in 1841 was born as an independent medical school, having all the dignities of its position. The first lectures began November 1, 1843, and continued sixteen weeks. The two years between the conception of the medical department and the birth of the medical school had not been idle ones in medicine. Adams, Jones and Prince had been busy teaching medicine and preparing students for the practice of their profession in these isolated and needy communities. Making the medical school a part of the college gave it degree-granting powers. The only instruction accorded to many of our pioneer doctors was to "ride with Prince or Jones," or some other philanthropic and conscientious physician. In the olden times it was considered a part of the duty of the doctor to "take a student." Much of their teaching was done systematically and thoroughly and contained an element of human worth often missed by the machine-made doctor of a later day. In Jacksonville in addition to riding with a preceptor the student had the advantage of the instruction of Dr. Adams in chemistry and materia medica even before the formal founding of the medical school, and some of the more ambitious ones put on the finishing touches by spending four or five months at a school in Cincinnati, Louisville or St. Louis and receiving a degree.[3]

---

that W. B. Herrick, M.D., of Chicago, was Professor of Surgical Anatomy and Surgery but Dr. Samuel Willard, a member of the first class, says that Dr. Herrick did not accept the appointment and never came to Jacksonville to lecture, and the course was given by Dr. Prince.

(3) MEDICAL COLLEGES ORGANIZED IN THE MISSISSIPPI VALLEY PRIOR TO 1845

1817. Med. Dept. Transylvania University—Lexington, Ky.
1819. Med. College of Ohio—Cincinnati.
1831. Med. Dept. University of Louisiana—N. Orleans, La.
1832. Worthington Med. Coll.—Worthington, O.
1835. Med. Dept. Willoughby University, Willoughby, O.
1836. Physio Med. Coll.—Cincinnati, O.
1837. Med. Dept. University of Louisville, Ky.
1840. Cincinnati College of Med. and Surg.
1840. Missouri Medical College, St. Louis, Mo. (Under Dr. McDowell).
1841. St. Louis Medical College, St. Louis, Mo. (Under Dr. Pope*).
1843. Med. Dept. Illinois College, Jacksonville, Ill.
1843. Rush Med. College, Chicago, Illinois.
1843. Med. Dept. West. Reserve University, Cleveland, O.
1843. Eclectic Med. Institute, Cincinnati, O.
1844. Ind. Med. College, La Porte, Ind.
1845. Med. School of University State of Missouri, Columbia.

*"The rivalry of Pope and McDowell and McDowell's coarse and ungentlemanly ways account for the two colleges in St. Louis of almost equal dates." S. W.

MEDICAL COLLEGES—U. S. AND CANADA. ORGANIZED IN 1844 OR PRIOR TO THAT DATE

1765. Dept. of Med., University of Penn., Philadelphia.
1766. Med. Soc. of N. J., 1866, authorized to give diplomas.
1782. Med. Dept. of Harvard University, Boston, Mass.
1797. Med. Dept. of Dartmouth College, Hanover, N. H.
1807. College of Phys. and Surgeons, N. Y.
1812. College of Physicians and Surgeons of the West Dist. of N. Y.
1818. Vermont Academy of Med., Castleton, Vt.
1819. Med. College of Ohio, Cincinnati.
1821. Med. Dept. Brown University, Providence.
1823. Med. Dept. University of Vt.
1825. Med. Dept. University of Va., Charlottesville.

The medical school had an attendance of fourteen students[4] the first year and graduated six men with the degree of M.D. Evidently some of their students were at work in other departments of the school. Of the first class of fourteen, five graduated in 1845 and three did not receive their degree until 1846.

It will be noticed that after the name and residence of each student was given the name of the instructor under whom he received his preliminary medical education. These instructors were almost always active general practitioners who were not only busily engaged in caring for the sick of the sparsely settled communities, but were also putting forth their best endeavor to prepare a new generation of doctors to care for the rapidly growing settlements. This was no light task amid rides over bad roads, or no roads at all, to reach the cabins of the scattered settlers. The pioneer doctors deserve our praise for their goodness of heart and largeness of mind.

An ever present characteristic of the pioneer was a constant looking into the future. He lived and endured the hardships and privations of the present in order to prepare for the future. The shelter of tree boughs covered with skin or leaves was only used until the cabin could be raised; and the cabin served as the family home while the forest was cleared and the prairie fields were "broken up." As soon as prosperity came and a little money could be accumulated the cabin in turn gave way to the frame or brick house. Provision for education was the first step in all

1826. Med. School of the Valley of Va., Winchester.
1826. Jefferson Med. College.
1829. Med. Dept. State of S. C., Charleston.
1832. Worthington Med. Coll., Worthington, Ohio.
1836. Med. Dept. Willoughby University, Willoughby, O.
1836. Physio-Med. College, Cincinnati.
1839. Geneva Med. College, Geneva, N. Y.
1839. Albany Med. College, Albany, N. Y.
1840. Cincinnati College of Med. and Surgery.
1840. Missouri Med. College, St. Louis, Mo.
1841. Med. Dept. of University of City of New York.
1841. St. Louis Med. College, Missouri.
1843. Berkshire Med. Coll. (Williams College) Pittsfield, Mass.
1843. Med. Dept. West Reserve University, Cleveland, O.
1843. Eclectic Med. Institute, Cincinnati, O.
1845. Med. School of University of State of Missouri, Columbia.

(4) MEDICAL STUDENTS

Names	Residence	Instructor
J. G. A. Bernard	Payson	M. Shephard
Augustus F. Hand	Harrisburg, Vt.	Prof. Adams.
John G. Howell	Diamond Grove	Prof. Adams.
M. M. Hunt	Mission Institute	Prof. Prince.
A. B. Ireland	Tremont	
H. K. Jones	Troy, Mo.	Prof. Adams.
H. M. Lyons	Jerseyville	Prof. Adams.
Daniel Pierson	Jacksonville	Prof. Jones.
G. V. Shirley	Jacksonville	Practitioner.
Jerome B. Tenny	Pekin	Prof. Adams.
Charles G. Terrell	Quincy	Prof. Prince.
Robert G. H. Ward	Nicholas Co., Ky	
James B. Woodward	Jacksonville	Prof. Adams.
John W. Young	Beaver, Pa.	Prof. Adams.

the settlements to mark progress on the road to prosperity. The pioneer doctor was no exception to this rule of progress.

The midnight ride; the bridle path; the lonely cabin; the night vigil with the floor for the patient's bed as well as the doctor's chair; the scant remuneration and the life of consecrated service should draw out our greatest admiration, especially when we add to these the constant thought and care for the character and quality of their future physicians. Let us honor their precious memories and emulate their worthy examples.

The first catalogue of this first school contains many things of interest which show the trend and conditions of the time, the care for the future and the desire to do the best which the rough and undeveloped surroundings would permit. The first catalogue[5] contained a full statement of the lectures, degrees and advantages of the school which had had a complete and active organization for one year.

The course of instruction was less than four months and was repeated each year to all the medical students. This was the plan followed by all American medical schools until the graded course of instruction was introduced at a comparatively recent date by Chicago Medical College. The student was supposed to be well prepared by his preceptor in the rudiments of medicine prior to entering the medical school.

The cost of tickets to the lectures seems very high considering the scarcity of money at that early date. It would be interesting to know whether these fees were always paid in cash or whether the trustees and faculty in the generosity of their hearts did not sometimes accept the

(5) LECTURES

"The course of lectures commence annually on the first of November, and continues sixteen weeks. The cost of tickets for admission to the full course of Lectures is $60.00; tickets for private dissections $5.00; Graduation fee, including diploma, $10.00.

N. B. Students preparing for a missionary life, and wishing to pursue medical studies for that purpose, are admitted to the lectures free of expense."

DEGREES

The following qualifications, and compliance with the following requisitions, entitle a young gentleman to the degree of Doctor of Medicine from the Institution.

1. He must possess a competent acquaintance with the Latin language, and a sufficient knowledge of all the usual branches of an English education.

2. He must have pursued a thorough course of study with some regular practitioner.

3. He must have attended two full courses of medical lectures, the last of which must be at this institution; *Provided*, however, that experience in the practice of medicine may be accepted in the place of one course of lectures.

4. He must pass a satisfactory examination in all the branches of medical study, before the Medical Faculty, assisted by a board of censors, annually appointed for that purpose by the Trustees.

5. He must publicly read and defend a dissertation on some medical subject.

N. B. This Institution does not require any definite term of study as a condition of graduation. A thorough knowledge of all the branches of medical science, whether acquired in a longer or shorter time, must, however, be exhibited at the examination.

Candidates for the degree of Doctor of Medicine are examined at the close of each course of lectures.

Degrees will be conferred at the close of the lectures, and at the annual commencement of the College on the last Wednesday of June.

product of the chase, the farm or the loom in lieu of cash. Dr. Willard says: "Many gave their notes." There was certainly considerable inducement for a medical student to develop missionary ambitions in order to avail himself of the free lecture privilege.

One reads with great interest the requirements for receiving the degree of M.D. They are full of a desire for a high quality of man from an educational point of view and yet are widely lacking in positive statements. The educational facilities of this rough and untamed country were very few and it would have been manifestly impossible to insist on anything like a uniform standard. In medicine, like everything else, a man was taken for what he hoped to be rather than for what he had already accomplished. We are acquainted with a medical man of this period—of international, professional and scientific reputation, and decorated with numerous honorary degrees by several prominent institutions, who never attended school to exceed three years, for the reason that there were few schools to attend, and little time to attend them. Every boy of the family, by the time he was of school age, had to go to work and "make a hand" in breaking the farm out of the forest or the prairie. Therefore while "two full courses of medical lectures" were offered and one course was required as the basis for the degree of M.D.,

---

ADVANTAGES

Belonging to the anatomical department is a very good cabinet of preparations, consisting of connected skeletons—separate bones of all the parts—complete preparations of the blood-vessels, nerves, muscles, genital organs of both sexes, organs of the voice, together with the more important anatomical plates of Bougery and Jacobs, and Weber's full size copperplate engravings.

The chemical department is amply supplied with apparatus for illustrating all the principles of Chemical Philosophy.

A full set of plates of Pathological Anatomy will be procured before the next course of lectures.

A superior set of apparatus and plates for illustrating Practical Obstetrics, is provided for that department.

There is a respectable Medical Library belonging to this Institution, embracing the best modern works upon the various branches of medicine. Students will also have access to the private libraries of the Professors, which contain the best medical periodicals in the French, German and English languages.

Arrangements are made for an ample supply of fresh subjects for the dissection from abroad, which will be furnished at cost to private classes.

In order to impart practical instruction in the examination of patients, in the use of the stethoscope, and in other matters of practical importance, the Professors of the Theory and Practice of Medicine, and of Surgery, will be ready on Monday and Tuesday of each week to attend at the dispensary such patients as can be taken to the college, giving advice and performing operations gratis, before the class.

In addition to the regular course of lectures, a course of instruction will be continued through the year to those students who may find it to their advantage to remain on the ground. Medical students will have the opportunity of pursuing any study they may choose with the college classes, and of attending the lectures on Natural Philosophy and Natural History. The philosophical apparatus is one of the best collections in the United States, having been obtained at Paris, at great expense. The price charged for admission to a course of lectures, on the above subjects, is only $2.50.

N. B. It is recommended to students to come supplied with text books in the various departments of study.

yet there was an *N.B.* to the effect that "this institution does not require any definite term of study as a condition of graduation." All that was really required was a knowledge of the subject. This was beautiful simplicity compared with the large bolts of red tape which must now be unwound in some of our states prior to receiving the degree of M.D., and a license to practice. Few things could be more interesting than the statement of the "advantages" offered by the institution. The skeletons, anatomical preparations and anatomical charts are suggestive of the meager equipment of medical books and charts then attainable. The illustrated medical book of our day was yet unborn. Certainly the facilities of a medical college of three rooms and four professors seems to us to present very meager advantages when compared with the modern medical school with its graded course of instruction and its hundred or more instructors; its ten or fifteen laboratories; its great clinics in charge of specialists and its great library. Yet we see in the statements of the catalogue of this early school, the first rays of light of a university with its interchange of courses and reciprocity in study.

Medical books must have been very difficult to obtain, as a note in the catalogue mildly suggests that the student come "supplied with text-books." Few medical books had yet been published in America by American writers. England and France must furnish most of those required; and St. Louis, a hundred miles away, was the nearest point at which they could be obtained.[6] Nor could one "run down on the morning

---

BOARD, RENT, ETC.

Board may be obtained at the college boarding-house for $1.50 per week, if paid in advance. Twenty or thirty students can be accommodated with rooms in the college buildings, or in houses near the college premises, at a low rent, by sending in their names before the first of October next. Preference will be given those who apply first.

Board, and rooms ready furnished, may be obtained in the village of Jacksonville, at from $2.50 to $3.50 per week. Students may save more than half the expense of board by taking a plain fare at their rooms.

N. B. Applications for rooms, and letters of inquiry may be addressed to Samuel Adams, M.D., Jacksonville, Ill.

The following note on dissecting is by an early student of the medical department of Illinois College who read this paper:

"This does not agree entirely with what you said before about raids on graveyards. But every corpse for dissection was taken from a barrel, sure, dripping with alcohol. What I may happen to know about how some bodies got there is neither to be printed nor written."

(6) Dr. Samuel Willard says, "The statement about medical books in America is erroneous. As early as 1840 Lea and Blanchard, and Lindsay and Blakiston, both of Philadelphia, not to mention other publishers, had republished the greater portion of valuable English Medical books. I had a bulky volume, a translation of Cruvielhier's Anatomy, and I used the Dublin Dissector, both American editions. Dr. O. W. Holmes in 1857 or 1858 in Atlantic Monthly speaks of the young doctor with his books in "peppered sheepskin" (L. & B.'s special form of binding). When I took my degree in 1848 I had these books: Wilson, Anatomy; Carpenter, Physiology; Cruveilhier, Anatomy; Dublin Dissector; Ferguson, Practical Surgery; Druit, "Modern" surgery; Watson, Practice of Medicine; Wilson, Principles of Medicine; Pereira, Materia Medica; 2 vol., Graham, Chemistry; Smith, Minor Surgery; Bartlett, Diagnosis; Stille, Principles, etc.; Marshall Hall, Practice; Macartney, Inflammation; Williams, The Eye and Its Diseases; West, Diseases of Children. Perhaps I have forgotten one or two. It would have been easy to have quadrupled my library with excellent medical works at that time."

train" and be back before supper, but must either ride twenty-five miles to the river and then go 100 miles by boat or make the whole journey on horseback or by wagon.

Notwithstanding the scarcity of money and the limited resources of these pioneers, the price of board was fully as high as it is at present in communities of the same number of inhabitants.

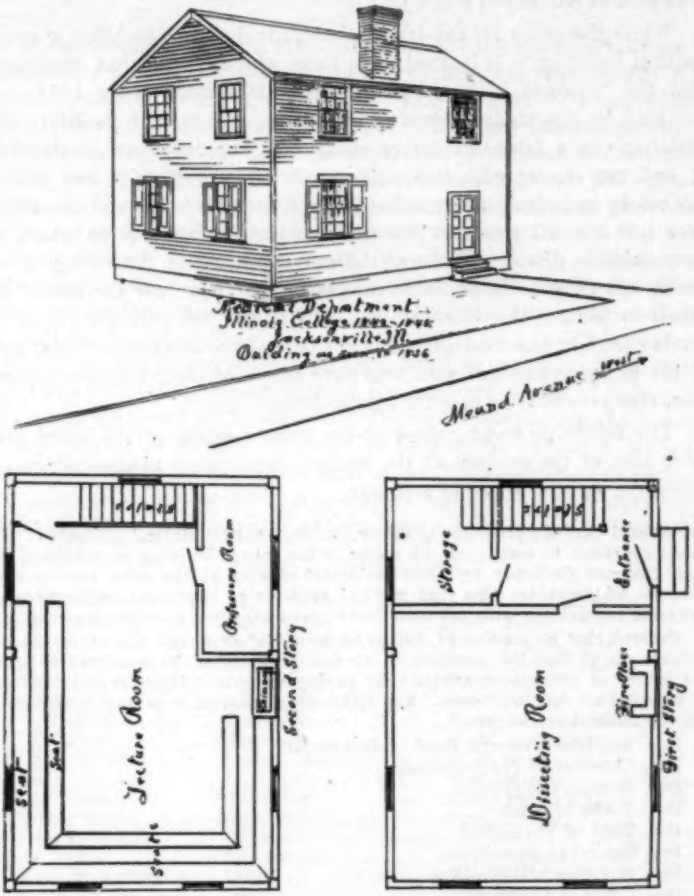


Fig. 6. An outline drawing of the Illinois College Medical School, made by Mr. John Bowen, who now occupies the building, which has been remodeled into a residence. The drawing was made from instructions by Dr. Samuel Willard, (a), the building. (b) First floor with entry hall, storage room and dissecting room. (c) Second floor with lecture room and Professor's room.

The first year of the medical school seems to have been regarded by the trustees as a success, for we find at their next regular meeting that

"Professor Adams made his annual report on the state of his department which was read and accepted, and referred to Messrs. Baldwin, Kirby and Lippincott." It being represented to the board that further accommodations for the medical department are indispensable to its success, it was ordered that the whole subject of providing such accommodations be referred to the prudential committee with a request that they will act on it as soon as possible" (Fig. 6).

While the order on the trustees' records does not mention a special medical building, it is learned from those who attended that department that the "medical hall" was built about this time (July 1844) and occupied by the medical department during the rest of its life. This building was a frame of rather cheap and unpretentious construction. It had two stories with two rooms each. The first floor had a small laboratory and clinic room and a large dissecting room, and the second floor had a small room for the professors and a large room where the lectures were given. This was the only building of the college group which was frame. It would be interesting to know how the money was raised to pay for this building, and why it was not paid for out of the funds raised by the trustees. It is not beyond the imagination that some of the generous medical men who gave freely of their time for instruction, also gave of their cash for this building.

The following order passed at the same meeting of the board gives some idea of the relation of the medical department to the college. It also gives the first board of censors:

Ordered that the president of the college may permit medical students of good moral character to occupy vacant rooms in the college building on condition that such students shall pay rent and incidental charges at the same rate as other students and provided also that medical students so occupying rooms be under the same regulations with reference to religious exercises as other students.

Ordered that no student of college be permitted to attend any of the medical lectures except that the members of the senior class shall be permitted to attend the course of lectures on anatomy by paying into the college treasury the sum of four dollars for the course. The following gentlemen were appointed censors for the medical school, viz.

Doc. English, Prosser & Read of Jacksonville.
Doc. Chandler of Panther Creek.
Doc. Brown of Waverly.
Doc. James of Alton.
Doc. Todd of Springfield.
Doc. Samuel of Carrollton.
Doc. Morrison of Carrollton.
Doc. Lewis of Chatham.
Doc. Rawlston, Quincy.

The catalogue announced in 1845 the teachers of the previous year excepting Dr. Stahl of Quincy. Dr. Henry Jones took up the chair of materia medica and therapeutics instead of obstetrics and diseases of women and children which was left vacant, as was also the chair of the practice of medicine. A footnote said "The blanks in the medical depart-

ment will be speedily filled and the names announced in the medical circular to be issued in the spring."[7]

It is evident that the medical school found considerable difficulty in securing the services of competent teachers. Few of the physicians of the day had the education necessary. Many who had sufficient education were in the new country for purposes of speculation rather than to practice their profession. They were following the mirage of "get rich quick schemes."

For some reason, not plain after this lapse of time, the trustees found it desirable to omit in the second catalogue the first requirement for degree as quoted from the first catalogue. This referred to "a competent acquaintance with the Latin language, etc." Probably the pioneers who were building their new civilization under new conditions did not feel the same love and necessity for the dead Latin as a ladder to the science and practice of the healing art as those of the older colonies, who were more bound by the traditions of the old world teachings.

The catalogue of January, 1845, stated the "*N.B.* A separate announcement of this department will be published in the spring when further particulars will be stated." Five students were graduated in 1845 with the degree of M.D.[8]

At the meeting of the trustees in June, 1845, "a communication from the faculty of medicine recommending the honorary degree of doctor in medicine be conferred on N. Ralston of Quincy, J. B. Samuel of Carrollton, and Horace A. Ackley, Professor of Surgery in Cleveland Medical School, was read and considered and it was thereon voted to confer the degrees as recommended." Drs. Ralston and Samuel had previously served the college on its board of censors, which board in the undeveloped

(7) MEDICAL STUDENTS

Names	Residence	Instructors
W. H. Chapman	Jacksonville	Prof. Jones.
C. C. Emerick	Jersey Prairie	E. J. Dunlap, M.D.
Wm. H. Greene	Marine	P. P. Greene, M.D.
Augustus F. Hand	Jacksonville	Prof. Adams.
N. Hunt	Mission Institute	Prof. Prince.
A. B. Ireland	Tremont	D. Wheeler, M.D.
S. M. Jones	Exeter	H. M. Stuart, M.D.
W. M. Lawrence	Fulton, Mo.	R. O. Blakey, M.D.
		Prof. Adams.
D. H. McCord	Greenville	E. C. Park, M.D.
Daniel Pierson	Jacksonville	Prof. Jones.
Dr. G. Y. Shirley	Jacksonville	
Elias Smith	Jacksonville	Prof. Adams.
Jerome B. Tenney	Pekin	T. A. Perkins, M.D.
Charles C. Terrell	Quincy	Prof. Stahl.
J. A. S. Townsend	Jacksonville	Prof. Prince.
Dr. R. B. Tripp	Binghamton, N. Y.	
C. A. Wiggins	Quincy	Dr. E. Cary.
H. C. Wing	Troy, Mo.	
J. B. Woodward	Jacksonville	Prof. Adams.

(8) *Augustus F. Hand, M.D. (See Fig. 7).
*Daniel Pierson, M.D.
N. M. Hunt, M. D.
*G. Y. Shirley, M.D.
Charles Terrell, M.D.

state of society and public institutions, took the place of the present licensing board. Such boards had the great advantage of representing the profession which should properly control admission to the fraternity of practical medicine. The modern licensing board often has little consideration for the profession to which it belongs compared with the homage it pays to the politician. It would be a godsend if we could return to something of the spirit of the old days when it was supposed to be proper and just for the profession to have more voice in deciding who should join its sacred ranks.

The degree conferred on Horace A. Ackley speaks much for the state of medical education at that date. A professor of surgery in a Cleveland medical college has no degree and comes out to the wild country of "the Illinois" to be made a real doctor.

At the meeting of the trustees in June, 1845, the following action was taken:

> The resignation of Doctor Todd as professor of ..... in the medical department was communicated verbally through Prof. Adams, whereupon it was voted that the filling of that vacancy and making any further changes in that department, or provision for it as suggested by the medical faculty, be referred to the prudential committee.

We have often heard critical members of our profession complain of the laity for calling us "Doc," but they are certainly excusable in Illinois, at least, for all through these catalogues the professors and censors are called "Doc." With such high authority we should at least excuse our country friend, who calls out in the exuberance of his friendship "Hi, Doc!"

We fail to find a copy of an announcement for 1846 as promised in the catalogue of 1845. The only record is a list of the graduates who numbered thirteen.[9]

At the meeting of the Board of Trustees in June, 1846, the following action was taken: "On recommendation of the medical faculty and censors in that department, voted that the degree of M.D. be conferred on J. F. Rice and Henry Wing; also, voted that the same degree be conferred on M. H. L. Schooley of Virginia, Cass County. Voted that the following gentlemen, being all of them doctors of medicine, be appointed censors of the medical department for the coming year, viz.:

Haskell,	H. M. Stewart,	A. Reynolds,
Munroe,	M. M. L. Reed,	Adams Nichols,
E. Dunlap,	John Todd,	A. W. Pinkerton,
G. Y. Shirley,	S. S. Ransom,	James Bunce.

It must have been a proud day for this little pioneer medical school, so lately sprung up on the hunting grounds of the Iroquois, when they

---

(9) MEDICAL GRADUATES

*Peter R. Boice, M.D.	Henry Owsley, M.D.
*James Budden, M.D.	J. F. Rice, M.D.
Warren H. Chapman, M.D.	Clark Roberts, M.D.
*C. C. Emerick, M.D.	Jerome B. Tenny, M.D.
N. B. Hooker, M.D.	Russell B. Tripp, M.D.
A. B. Ireland, M.D.	Henry Wing, M.D.
H. K.. Jones, M.D.	

could point to the fact that their censors were all "Doctors of Medicine." That a few of them may have had only an honorary degree from this school does not alter the facts.

An entry on the records of the Board of Trustees at the same meeting shows that the medical department paid rent for the use of the "Medical Building." This is also the first mention on the records of a special building for the medics.

The catalogue of January, 1847, gives a list of twelve censors[10] of the medical department. The faculty that year had been extended by the appointment of John James, M.D., Professor of the Principles and Practice of Medicine; Edward Mead, M.D., Professor of Materia Medica and Therapeutics, and J. Leland Miller, M.D., Professor of Anatomy and Physiology. Henry Jones, M.D., was returned to the Chair of Obstetrics and Diseases of Women and Children. The medical school that year had thirty-nine students,[11] which was one more than the total of the four classes in the college proper and was more than one-third of the total number of students in the institution including the preparatory department.

(10) CENSORS OF THE MEDICAL DEPARTMENT

John Todd, M.D.	S. S. Ransom, M.D.
A. Reynolds, M.D.	Adams Nichols, M.D.
A. W. Pinkerton, M.D.	James Bunce, M.D.
..... Haskel, M.D.	Thomas Munroe, M.D.
E. J. Dunlap, M.D.	G. Y. Shirley, M.D.
H. M. Stewart, M.D.	M. M. L. Reed, M.D.

(11) MEDICAL STUDENTS 1845-1846

Names	Residence	Instructor
*T. Aiton	Quincy	Medical Faculty .
F. L. Bostick	Fayette	*Dr. J. R. Murphy.
J. M. Buck	Bunkerhill	E. Howell, M.D.
Austin E. Burns	Mackinaw	E. D. Burns, M.D.
J. Clark, Jr.	Maquoketa, Iowa	M. D. Clark, M.D.
M. B. Elder	Park Co., Iowa	W. J. Weaver, M.D., and J. M. Allen, M.D.
James B. Craven	Lewis Co., Mo.	P. Conduite, M.D.
L. S. Ferris	Fountain Green	Practitioner.
*F. R. Gallaher	West Ely, Mo.	D. W. Ferguson, M.D.
*Isaac V. Goltra	Green Co.	Henry Jones, M.D.
Richard Hainds	Fayette, Mo.	W. R. & J. B. Snelson,
A. F. Hand, M.D.	Cass Co.	M.D.
Theodore Hay	Springfield	J. A. Hay, M.D.
E. P. January	Independence	Practitioner.
E. S. Jones	Jacksonville	Henry Jones, M.D.
*John S. King, Jr.	Fairfield	Edward Mead, M.D.
F. P. Luckett	Mechanicsburg	W. McNeill, M.D.
H. M. Lyons	Jerseyville	Medical Faculty.
Matthew Marvin	Mackinaw	Charles M. Ray, M.D.
D. H. M'Cord	Hazel Green, W. T.	E. C. Park, M.D.
J. H. M'Cord	Greenville	Medical Faculty.
J. N. M'Cord	Bond Co.	J. M. Barber, M.D.
J. S. M'Cord	Bethel	Practitioner.
A. Miller	Macoupin Co.	Practitioner.
*George S. Mosteller	Mason Co.	J. S. Allen, M.D.
J. C. Patterson	Middletown	Dr. H. P. Kelso.
P. L. Phillips	Metamora	David Prince, M.D.
A. Reynolds	Magnolia	A. Reynolds, M.D.
George W. Richards	Morgan City	A. Miltower, M.D.

The statement in the catalogue was considerably extended over that of 1845 and offered a number of improvements and new features.[12]

At the end of the catalogue is given a list of all the graduates[13] of the medical department to date.

At the meeting of the Board of Trustees in June, 1847, we find the degree of Master of Arts was conferred on at least three men who had the year before received the degree of M.D.

At the same meeting the trustees took action regarding the appointment of professors in the medical department looking to improvement in the quality of the teaching by securing those of more experience.[14]

In January, 1848, a catalogue "pertaining to the medical school," was issued for the information of those desiring to enter on the study of medicine. Immediately following the list of names of the trustees[15] is given the names of the "Censors of the Medical Department"[16] for that year. This list is much more complete than that taken from the records of the trustees.

MEDICAL STUDENTS 1845-1846—(Continued)

Names	Residence	Instructor
George M. Scott	Richland	J. L. Miller, M.D.
Henry R. Smith	Jacksonville	Medical Faculty.
L. M. Todd	Springfield	John Todd, M.D.
J. M. Townsend	Chambersburg	David Prince, M.D.
M. P. Turner	Jacksonville	J. L. Miller, M.D.
L. W. Warren	Geneva	Edward Mead, M.D.
Francis N. Wells	Connecticut	J. H. Brown, M.D.
*H. Welch	Franklin	Practitioner.
*J. S. Whitmore	Matamora	J. B. Kyle, M.D., and M. H. Schooley, M.D.
John W. Young	Rural Valley, Pa.	Henry Jones, M.D.

(12) We take pleasure in announcing to the medical profession in our state, that since issuing our first annual circular, a set of commodious rooms have been fitted up for the Anatomical Department; and that during our last course of lectures, the most ample facilities for the prosecution of anatomical studies have been enjoyed. To this department also belongs an excellent cabinet of anatomical preparations together with the splendid colored plates of Bougery and Jacob, and Weber's full size copper-plate engravings.

The chemical department is amply supplied with apparatus for illustrating all the principles of chemical philosophy. Valuable additions to the apparatus are also expected before the next course of lectures begins. Cruveilhier's great work on Pathological Anatomy with colored engravings, has recently been imported from Europe, and as used in the lectures, is immensely useful in enabling the student to form a clear conception of all the most important changes produced by disease.

A superior set of apparatus and plates for illustrating practical obstetrics is provided for that department.

A select cabinet of materia medica will furnish all that can be desired in the way of illustration in that department.

The department of surgery is provided with the requisite instruments and apparatus. We are happy to state, also, that a considerable number of surgical operations have been performed before the class during the last course of lectures; and an increase may be expected from year to year, as advice is given and operations are performed before the class without charge.

There is a respectable medical library belonging to this institution, embracing the best modern works upon the various branches of medicine, to which students will have free access.

Arrangements are made for an ample supply of fresh subjects for dissection, from abroad; which will be furnished at cost to private classes. We are happy to assure medical students that they need apprehend no disappointment on the

It is interesting to notice in the list of the faculty of the college that half of them were for the medical school. And there were thirty students in the medical department [17, 18] and only twenty-seven in the college proper. There were twelve irregular students and twenty in the preparatory department, making a total of eighty-nine students in the institution.

It would be interesting to know the average age at which these young men entered on a study of medicine. The demand for doctors in this rapidly developing new west must have been great, for this infant medical school situated within a comparatively short distance of St. Louis, Louisville and Cincinnati to have had so many students. At this early date, the village of Jacksonville contained only about 2,500 souls, and settlements of consequence were few and far between. Much of the country was in its wild state, still given over to the hunter, unfenced and uninhabited excepting by a pioneer's cabin here and there. Under such

---

score of facilities for the prosecution of anatomical studies. It gives us pleasure to be able to accompany this assurance with the statement that no less than twenty-eight of the class of students in attendance this year, have taken the private dissecting ticket.

In addition to the regular course of lectures, a course of instruction will be continued through the year to those medical students who may find it for their advantage to remain on the ground. Medical students will have the opportunity of attending the lectures on natural philosophy and natural history. The philosophical apparatus is one of the best in the United States, having been obtained at Paris, at great expense. The lectures on natural history will be illustrated by Carpenter's Phantasmagoria Lantern, with a complete set of natural history slides, together with numerous plates, preparations and specimens. The price charged for admission to a course of lectures on each of the above subjects is only $2.50.

BOARD, RENT, ETC.

Good board may be obtained in the vicinity of the college at $1.00 to $1.50 per week. More than half the expense of board may be saved by those who board themselves. Twenty or thirty students may be accommodated at a low rent with rooms, in the college building and in houses near the college premises.

REGULATIONS

Each student is required to call, early in the term, upon the Secretary of the Medical Faculty, to register his name, place of residence, and name of the practitioner with whom he had pursued his studies. The matriculation fee must always be paid in advance; and no student is entitled to the privileges of the institution till he has complied with this regulation. Advance payment is also required for the professors' tickets, unless otherwise arranged at the time. It is proper to state in this connection, that no respectable young man will be excluded from the privileges of this institution for want of the means to pay for his ticket in advance. But we trust that those who have friends or relatives, who are able to help them, will always esteem it more honorable to be in debt to those friends than to a public institution.

We would here urge the importance of every student being on the ground at the very opening of the course of lectures. The first lectures are preliminary, and are the most important part of the course.

It is recommended to each student to provide himself with a medical dictionary, and some good modern work on each of the branches which he wishes to pursue in connection with the lectures.

The following note, in pencil, is found at the close of the 1847 catalogue report.

"The following is a true copy of an abolition petition presented to the Senate and House of Representatives of Illinois.

"To the honorable, the Senate and House of Representatives of the state of Illinois. Your petitioners, inhabitants of Illinois, respectfully request and instruct your honorable body to repeal all laws now in force making a distinction among our people on account of color."

"Those persons whose names in the catalogue marked with a star were signers."

conditions it must have required great courage and confidence in the future to establish a college with a university basis, having departments of preparatory school, literary college, medicine, missionary preparation and theology. Such efforts certainly show a beautiful spirit in the little band of instructors which led this initial education movement in the pioneer days of the great state of Illinois. Such an educational effort appears very small to-day, surrounded as we are by rich and influential colleges and universities reared on a foundation of free public and preparatory schools, but it shows plainly what was in the hearts of the pioneer; what he hoped for his children in the state of his choice. This institution had no small part in paving the way for the future greatness of one of the greatest states of the Union. Many of the sons of this college have sat in the councils of the state and the nation. Much of the impetus of the anti-slavery cause was developed here where the training and the very atmosphere made slavery impossible. The war governor, Richard Yates, was its first literary graduate. Lincoln was touched by its

(13) 1845: Augustus F. Hand, M.D.; N. M. Hunt, M.D.; G. Y. Shirley, M.D.; Carolus C. Terrell, M.D.; J. B. Samuel, M.D.; Horatius Ackley, M.D. 1846: Petrus R. Boice, M.D.; Jacobus Budden, M.D.; Warren H. Chapman, M.D.; C. C. Emerick, M.D.; N. B. Hooker, M.D.; A. B. Ireland, M.D.; Henricus Ousley, M.D.; J. F. Rice, M.D.; Clark Roberts, M.D.; Jerome B. Tenney, M.D.; Russell B. Tripp, M.D.; M. H. L. Schooley, M.D.

Voted also on recommendation of the Faculty, that the Degree of Master of Arts be conferred on the following persons, Alumni of this College, of the Class of 1844 viz. Hiram K. Jones, M.D.; Henry Wing, M.D.; Parmenio L. Phillips, M.D., and Charles H. Tillson, also John Tillson Morton of the Class of 1843.

(14) A communication from the medical faculty was read and in accordance therewith resolved that candidates for professorships in the medical department of this institution be first appointed for one year only until they should be experienced Lecturers.

Resolved that Henry Wing, M.D., be appointed to the chair of Materia Medica and Therapeutics in this institution for one year.

Voted that the following gentlemen be appointed censors of the medical department for the ensuing year, viz.: Charles Chandler, M.D.; Charles Knight, M.D.; C. Roberts, M.D.; Merriman; Gibson; O. M. Long, M.D.; J. S. Rogers, M.D.; Russel, M.D.; J. B. Samuel, M.D.; Robert Boal; Nath'l English and Geo. T. Allen.

(15) Rev. Julian M. Sturtevant, President; Hon. Samuel D. Lockwood, William C. Posey, Rev. Theron Baldwin, Rev. John F. Brooks, Rev. Elisha Jenney, Rev. William Kirby, Rev. John G. Bergen, John Tillson, Thomas Mather, Frederic Collins, Rev. Thomas Lippincott, David Smith, David A. Ayres, William H. Brown, Rev. William Carter.

(16) Andrew Russel, M.D.; J. B. Samuel, M.D.; Robert Boal, M.D.; Charles Chandler, M.D.; C. H. Knight, M.D.; E. H. Merryman, M.D.; J. G. Rogers, M.D.; Nath'l English, M.D.; O. M. Long, M.D.; Clark Roberts, M.D.; Edward Moore, M.D.

(17) Julian M. Sturtevant, A.M., President.

Truman M. Post, A.M., Professor of History.

Samuel Adams, A.M., M.D., Professor of Chemistry, Natural History and Physical Etiology and Teacher of Modern Languages.

Henry Jones, M.D., Professor of Obstetrics and Diseases of Women and Children.

David Prince, M.D., Professor of Anatomy and Surgery.

John Jones, M.D., Professor of the Principles and Practice of Medicine.

Henry Wing, M.D., Professor of Materia Medica and Therapeutics.

William Coffin, A.M., Tutor in Mathematics.

Rensellaer Winchell, A.B., Tutor in Greek and Latin.

George W. Harlan, A.B., Instructor of the Preparatory Department.

influence as evidenced by his confidence in its long time president, Julian M. Sturtevant.

The statements of the catalogue of 1846, regarding lectures, degrees, advantages, etc., are practically the same as that of 1847. In the back of this catalogue is printed a complete list[19] of the professors of the medical school from its beginning. This is in Latin and is reproduced.[20, 21] (Cut of S. Willard, Fig. 8.)[22]

At the meeting of the Board of Trustees in 1848, an arrangement was made with one Nat'l Coffin, Esq., that if he would pay the debts of the college certain properties would be transferred to him, "saving and excepting the thirty-three acres of land on which are situated the college buildings, appurtenances, library and apparatus—the medical hall and lot, etc." Not another word appears in the records of the trustees regarding the medical school until their meeting in January, 1853, the following resolution was adopted:

Resolved, That the Prudential Committee be instructed to repair the south wing of the late college building, as far as they think necessary for security and neatness.

That the medical hall be repaired under the direction of the Prudential Committee, provided they are convinced that the investment will be a good one and provided also that the cost be not reckoned as a part of the current expenses of the institution.

(18) MEDICAL STUDENTS

Name	Residence	Teachers
T. Aiton	Illinois	David Prince, M.D.
J. Atkinson	Missouri	J. H. Kibbe, M.D.
P. L. Bostick	Illinois	Dr. J. Murphy.
T. Brockman	Illinois	N. English, M.D., and O. M. Long, M.D.
W. T. Ewing	Illinois	Daniel Stahl, M.D.
I. V. Goltra	Illinois	Henry Jones, M.D.
E. Griswold	Illinois	H. P. Griswold, M.D.
R. Hainds	Missouri	W. O. & J. B. Snelson, M.D.
J. N. Harnett	Illinois	Thomas Wilkins, M.D.
D. P. Henderson	Illinois	David Prince, M.D.
Nath'l Jayne, Jr.	Illinois	G. Jayne, M.D.
W. S. D. Johnson	Missouri	P. Conduite, M.D.
M. T. Klepper	Illinois	A. J. Mead, M.D.
T. G. Klepper	Illinois	A. J. Mead, M.D.
C. E. Lippincott	Illinois	G. T. Allen, M.D.
D. M. Logan	Illinois	Sprague, M.D.
H. C. Long	Kentucky	N. English, M.D., and O. M. Long, M.D.
D. A. McCord	Illinois	Medical Faculty.
F. S. M'Cord	Illinois	Samuel Adams, M.D.
J. N. M'Cord	Illinois	Dr. J. M. Barber.
J. S. M'Cord	Illinois	Practitioner.
J. C. Patterson	Illinois	Medical Faculty.
O. B. Payne	Illinois	J. Darrah, M.D.
E. W. Roberts	Illinois	Practitioner.
J. W. Thayer	Illinois	J. R. Lewis, M.D.
John Walker	Illinois	Medical Faculty.
S. G. Weagly	Illinois	J. T. Cassell, M.D.
B. M. White	Illinois	E. C. Clark, M.D.
David Wilkins	Illinois	Thos. Wilkins, M.D.
Samuel Willard	Illinois	Drs. Nichols and Birdsell.

At a meeting of the trustees on July 12, 1854, it was

Ordered that the Prudential Committee be authorized and instructed to sell at auction the medical hall and the lot of land upon which it is situated, being the eastern part of lot No. 64 on the plat of College Hill and bounded on the west by land sold to Mr. Crocker, provided they be offered for the same $1,000 or more in cash or its equivalent on time well secured.

A catalogue of the medical school was issued in January, 1848, containing announcements of the faculty and courses of study for the ensuing year, but as far as we are able to learn from the records of the college, extant, or from other sources, no medical classes were held after the spring of 1848. Just why the project, which had apparently had so satisfactory a beginning, was so abruptly and unceremoniously discontinued does not appear. It does not seem to have been on account of debt, for there is nothing in the records of the Board of Trustee to indicate the existence of debt incurred by this department. Nor would it appear to have been

---

1846-1847

(19) PROFESSORS

Accessus	Chemiae et Historiae Naturalis	Exitus
1838	Samuel Adams, M.D.	
	Medicinae, Theoriae et Praxeos	
1843	Daniel Stahl, M.D.	1844
1845	Johannes James, M.D.	1848
	Anatomices et Phisiologiae	
1843	David Prince, M.D.	1845
1845	Johannes Leland Miller, M.D.	1847
	Obstetricii	
1843	Henricus Jones, M.D.	1848
	Materia Medicae et Therapeutics	
1843	Samuel Adams, M.D.	1845
1845	Edwardus Mead, M.D. (see Note 20)	1846
1847	Henricus Wing, M.D.	1848
	Chirurgicae et Chirurgicae Anatomices	
1844	Gulielmus B. Herrick, M.D.	1844
1845	David Prince, M.D.	1848
	Chemiae et Aetiologiae Physicae	
1845	Samuel Adams, M.D.	1848
	Sacre Theologiae	
1849	Julianus M. Sturtevant, S. T. D., Praes.	

GRADUATES

Peter L. Bostick, M.D.	*Henry C. Long, M.D.
Isaac V. Goltra, M.D.	James M'Cord, M.D.
Richard Hainds, M.D.	John N. M'Cord, M.D.
Nathaniel Jayne, M.D.	Samuel Willard, M.D.

(20) Dr. Edward Mead represented the Medical Department of Illinois College at the National Medical Convention held in the city of New York, May 5, 1846. The *Illinois and Indiana Medical Journal* (1847) states that he resigned his place in Illinois College and removed to Chicago for the purpose of opening a private hospital for the insane. A year later he reported upon the "Chicago Retreat for the Insane" in the same journal. The Society of Medical History has a "Valedictory Address" to the graduates of the Cincinnati College of Medicine and Surgery, June 24, 1852, by Edward Mead, Professor of Obstetrics and Diseases of Women and Children.

because of the pressure of competition, for at the date of the discontinuance of this school only one other, Rush Medical College in Chicago,[22] had been established in this state. The attendance seems to have been

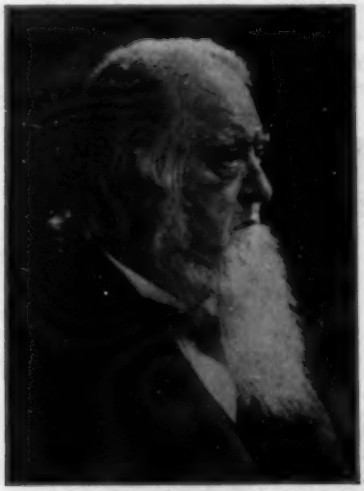


Fig. 8. Dr. Samuel Willard of No. 1526 Fargo Avenue, Chicago, Ill., received his A.B. from Illinois College in 1843 and his M D. from the same school in 1848. Although in his 91st year, he attended the meeting at the Auditorium when this paper was presented and made an interesting talk on this pioneer medical school and the physical and social conditions surrounding its existence.[23]

---

(21) The following letter from Dr. Samuel Willard describes some of the early professors and students:

Dr. Carl E. Black, Jacksonville, Ill.

My dear Doctor: I return your History of the Medical College at Jacksonville, which has proved quite interesting, as it calls up names and faces long forgotten. Some things seem wrong to me; for instance, the name of Henry M. Lyons as a student (p. 13) before he graduated from college, but your document says so.

While the building depicted by Mr. Bowen was especially the Medical Building, most of the lectures were given in the College Chapel: in fact all except those on Anatomy and Surgery. The room that Dr. Adams had as Prof. of Chemistry in the regular college was used for the same purpose in the Medical; and Materia Medica and Therapeutics used that room; in that room I gave that lecture on Ether as an Anesthetic which you say was the first on that subject given in Illinois. Henry Jones used the Chapel for his lectures on Obstetrics; and there Dr. James lectured on Theory and Practice of Medicine; I do not recall the place of the lectures of Dr. Stahl, but presume that they too were in the chapel, hours for the medical lectures were easily arranged to be at hours that did not interfere with the regular college.

Dr. Stahl lived in Quincy, where he had considerable popularity and practice, not among Germans only. I had more acquaintance with him there than at college. Your brief description of him is correct. I do not remember that he adhered to the religion of his fathers; he told me that his father adopted the name Stahl when the Elector of Hesse ordered all his Jewish subjects to drop their Jewish names and to take those that were not distinctive.

fairly satisfactory and in the main was on the increase. Compared with the other departments this one had by far the largest attendance and its students paid the largest fees and were in attendance the shortest time. Considerable money and energy had been spent in accumulating apparatus, library, etc., which for years remained stored away in dusty uselessness in the old library in "Beecher Hall." About ten years ago, in order to make their old medical library available for physicians and students, it was turned over to the Morgan County Medical Society, where it now

Fig. 9. Sturtevant Hall (erected 1850), Illinois College, now used by the science departments.

Dr. Jones was an excellent lecturer, both as to matter and manner. He talked easily, and had many professional experiences and anecdotes. His notable self-esteem was not offensively prominent, it was so well balanced by his suavity. Dr. Prince was not a fluent lecturer; he seemed to struggle with the dialect of technical terms which he insisted upon using; perhaps if he had had the collegiate education in Greek and Latin he would have spoken more easily. He was not without his anecdotes and humor. In 1850, when I roomed with him in St. Louis, he received a medical journal which was English and mailed from England; he scanned its pages quickly to find something of interest; then tossed it to me saying, "I don't see why anybody sent me that." I found in it a short article which gave the names of the eight or ten persons who had up to that time successfully removed ovarian tumors; his name was there as of Payson, Illinois.

Dr. Mead was a pleasant lecturer; but he and Dr. Adams had the driest subjects, those least capable of any illumination or mirth.

I cannot speak of Dr. Adams apart from my acquaintance with him in my college course and afterwards. I should more than fill this sheet if I should try to tell what he was in mind and heart; he had studied European languages under Longfellow when the poet was professor in Bowdoin College; though under no

forms a part of the library of that society. Many of these books are very valuable historically and as book rarities, and a number of them are in Latin. In this school, like many others of its day, there was a mortal conflict between the faculty of the college proper and the sciences of which medicine even then formed a conspicious part. The professors of Latin and Greek, and the honorable field of mathematics and the gentle and inanimate sciences of chemistry, botany and geology felt a repugnance for the men of the dissecting room. From all the writer has been able to learn the "Anatomy Question" was more important than any other single factor in discontinuing this pioneer medical school.[24]

---

obligation to do so, he gathered classes in French and German, and gave me an introductory lesson in Spanish and Italian. In English he had studied not only its literature but its philology and phonology. No one of his associates had gone deeper into psychology and philosophy. He was an optimist in spirit. He said "when I see the people going wrong, I think they need another lesson of experience, and God is giving it to them." The more one saw of him, the more he came to know that Dr. Adams, modest and gentle, was great intellectually and spiritually, and rich in attainments.

Of the students whom I remember—and almost every name as I read it calls up a man,—I need not report individual impressions. Some were my friends in later years. Those of whom I heard most in later years were Henry Wing and H. K. Jones. Dr. Wing was one of the Board of Examiners of candidates for medical places in the army. When I was examined in February of 1862, the board had had before them 254 aspirants; the demands were greater afterwards. Dr. Wing was of too weak a fiber to undertake service in the field, whither his zeal would have carried him; his gentle, noble, useful life ended before he was fifty years old. Dr. Jones did not win his fame in his profession.

I think the picture of the Medical Building a good one. . . . . I think of no more to say, and thanking you for the glimpses into the past, I am

Yours cordially,

SAMUEL WILLARD.

Harbor Springs, Mich., Sept. 10, 1906.

(22) Samuel Willard was born at Lunenberg, Vermont, in 1821, and came to Carrollton, Illinois, with his father in 1831. His father was a druggist in Carrollton. He took the preparatory course at Shurtleff College in 1838 and graduated in 1843 from Illinois College in the class with Newton Bateman and Thos. K. Beecher. The next year he served as tutor in Illinois College and then began the study of medicine at Quincy, Illinois, graduating from the department of Medicine of Illinois College in 1848. While a student at Illinois College he was prominent in the activities of the underground railroad. He was at one time indicted by the grand jury on the charge of assisting run-away slaves but in the trial was not convicted. He practiced medicine in St. Louis, Mo., and in Collinsville, Ill. In 1857 he took charge of the department of languages in the Illinois State Normal University. He served in the Civil War as private and surgeon with the rank of major. After the war he was superintendent of the schools of Springfield, Ill., and in 1870 became teacher of history in the West Side High School of Chicago, where he taught for over twenty-five years.

(23) From "Early Medical Chicago," 1879, by Dr. James Nevins Hyde, we learn that Rush Medical College applied for a charter in 1837, which was signed by the Governor in 1837; in "the autumn" of 1843 Professors Brainard, Blainey, McLean and Knapp were appointed; First session began Dec. 4, 1843, and continued sixteen weeks; Dr. Wm. Butterfield was the first graduate about April 1, 1845.

(24) In a letter Dr. Samuel Willard says "The school was discontinued because it did not pay the professors who came from abroad to lose their practice at home for all they got by the professorship. For the most part they had promissory notes the payment of which was indefinite."

THE CLINICAL VALUE OF THE GONORRHEA COMPLEMENT FIXATION TEST *

(From the Genito-Urinary Clinic of Northwestern University Medical School.)

VICTOR D. LESPINASSE, M.D., AND MAURICE WOLFF, M.D.

CHICAGO

The gonorrhea complement fixation test is a true Bordet-Gongou phenomenon and is absolutely specific except for meningococcus infections. The history of this test for gonorrhea dates as far back as 1906, when some work was done by Miller and Oppenheimer and others. This work, however, was unsatisfactory, due to the antigens that were being used, and did not show uniform results. The first real work done with uniform results was published by Schwartz and McNeil in 1911. Schwartz's results have been confirmed by Schmidt, Keyes, Gardner, Clowes, Grahmohl, Swimburne and others.

It is not the purpose of this paper to discuss the principles or the technique of this reaction, so only a few words will be said on this subject.

The materials used for performing the gonorrhea complement fixation test are as follows:

First; a hemolytic system. In our work we have used an anti-sheep system, the amboceptor being rabbit serum which has been immunized against sheep's corpuscles, the complement being fresh guinea-pig serum and the receptor being a 5 per cent. solution of freshly washed sheep corpuscles.

Second; a gonococcal antigen: this is an extraction of the bodies of dead gonococci, dissolved in normal salt solution. The gonococcus is cultivated on appropriate media and after a forty-eight-hour growth, the extraction is made. The extraction of cultures made from different individuals are mixed and used as a mixed antigen. Although in some cases, which will be mentioned, the test was made, using several single-strain antigens. The antigen must be carefully standardized to find its minimum complete binding dosage for positive serums, and its maximum dosage which shall not be anti-complementary by itself. We have made all our own antigens.

Third; the patient's blood-serum: the blood can be obtained from the ear or from a vein in the arm, in the same manner as blood is obtained for the Wassermann reaction. One c.c. or more of blood should be withdrawn. The blood is allowed to clot and the serum is withdrawn. This serum is used in the test. Before testing we inactivate the serum by heating at 56 c.c. for thirty minutes. The working basis of the test depends on the presence of gonococcal antibodies in the blood-serum, which will fix or destroy complement in the presence of the gonococcal antigen. A complete fixation is demonstrated by a complete inhibition or hemolysis and is designated as a positive reaction. When no antibodies are present, hemolysis occurs, and this constitutes a negative reaction.

* Read before the Englewood Branch of the Chicago Medical Society, Oct. 1, 1912.

Different grades of positives occur depending on whether the complement is completely fixed and these grades are designated as strong or complete, moderate and weak positive reaction.

The gonococcal antibodies, which will give a positive gonorrhea complement fixation test, appear in the blood about the end of the fourth week of the disease.

We have had thirteen primary acute cases that have had gonorrhea less than one month, with eleven negatives and two positives. Both of the cases showing positive reactions were in the fourth week of the disease.

These antibodies persist in the blood as long as there are any live gonococci present in the body; just how long they remain in the blood-stream after the death of the last gonococcus is not definitely known, but they probably do not persist very long. We have some work in progress at present to determine this point. In our series of cases of individuals with gonorrheal history, cited below, there is not a single positive reaction occurring after two years. This fact bears out Keyes' work in the persistency of the gonococcus in the urethera. According to the conclusion of Keyes, the gonococcus rarely if ever persists in the urethra longer than eighteen months. According to the gonorrhea complement fixation test, the antibodies can be present at least for two years.

The twenty-five cases headed "No gonorrheal history" are children and individuals who can be relied on to give honest statements.

Case	No. of Cases	Positives	Per cent.	Negatives	Per cent.
No gonorrheal history .	25	0	0	25	100
All the following cases were clinically well with the following gonorrheal history:					
1 year	12	3	25	9	75
2 years	9	1	11	8	89
3 years	8	0	0	8	100
4 years	2	0	0	2	100
5 years	10	0	0	10	100
6 years	2	0	0	2	100
7 years	3	0	0	3	100
8 years	6	0	0	6	100
9 years	4	0	0	4	100
10 years	12	0	0	12	100

In contra-distinction to the Wassermann test, which will become negative with mercurial or salvarsan treatment, there is no treatment that will render the gonorrhea complement fixation test negative. But there is a method of treatment that will render any one positive to the gonorrhea complement fixation test, whether he has a gonorrhea or not, namely: the injection of gonorrhea vaccines. Therefore, in cases recently treated with gonococcic vaccines, the gonorrhea complement fixation test is of little value.

Clinical Value.—The gonorrhea complement fixation test will detect the gonococcus anywhere in the body, in any variety of the disease, acute or chronic, during or after the fourth week of the disease.

Arthritis.—That it is of particular value in the differential diagnosis of arthritis, is shown by the following cases:

CASE 50.—An indeterminable knee-joint in which the diagnosis lay between a syphilitic and a gonorrheal joint. The Wassermann was positive and the gonorrhea complement fixation test was negative.

CASE 83.—An ankle joint infection in which all venereal diseases were denied. This case gave a negative Wassermann and a negative gonorrhea complement fixation test.

CASE 93.—Last gonorrhea four years ago; had it six or seven times previous. Pain in both feet and ankle joints; urethral findings negative. Gonorrhea complement fixation test positive.

CASE 164.—Gonorrhea eight years ago; now rheumatism in left knee with swelling of knee joint for past week; urethral findings those of acute gonorrhea. Gonorrhea complement fixation test positive. This case shows that the patient's present acute attack is an exacerbation of an old dormant disease, because he has not had his acute attack long enough to show a positive reaction.

CASE 187.—Woman with swollen, painful knee joint for past twelve years, coming after a child birth; has had some operation for the knee with no relief. Gonorrhea complement fixation test positive.

CASE 195.—Gonorrhea now six months, also several times previous; now has chronic case with morning drop; six months ago rheumatism in right ankle joint for two months; has same trouble for past two months. Gonorrhea complement fixation test positive.

CASE.—Woman (Dr. Osgood). Had a sore throat; the day following wrist and metacarpo-phalangeal joints swelled. Duration when first test was made, four weeks. Gonorrhea complement fixation test negative.

CASE 233.—Gonorrhea two years; has had a swollen ankle for a month; also complains of tenderness in heel and soreness of tendon Achillis. Gonorrhea complement fixation test positive.

Ophthalmological uses: In ophthalmological practice the gonorrhea complement fixation test is of value in the differential diagnosis of obscure cases of iritis.

Gynecologic uses: The gonorrhea complement fixation test is of importance to the gynecologist. First, to prove that a given leucorrhea is or is not gonorrhea. Second, to prove that a given pus tube is or is not gonorrhea. Third, to prove that a given pelvic cellulitis or peritonitis is or is not gonorrhea. Fourth, to prove that a given endometritis or cervicitis is or is not gonorrhea. Fifth, to aid in differentiating an acute appendix from an acute pyosalpinx. Sixth, to explain the occurrence of puerperal fever in cases that have been handled in an absolutely clean way, where the origin of the disease is in doubt. Seventh, before labor in a suspicious case so that extraordinary care can be taken as to gonorrheal infection of the baby's eyes.

CASE 152.—Woman with a leucorrhea for past three years; after an intrauterine application she had severe pains, chills, and discharge; the opportunity for gonorrhea infection had been abundant, but no gonococci could be found in the very profuse discharge. The gonorrhea complement fixation test was negative.

CASE 153.—Woman with leucorrhea for past five years; married; temperature 99.5; pain in the pelvis; uterus tender and very slightly enlarged. Gonorrhea complement fixation test was positive.

CASE 170.—Had vaginal discharge for past six months; married woman with two children; smear of discharge showed no gonococci, and the gonorrhea complement fixation test was negative.

CASE 193.—Had vaginal discharge for seven years; never bothered her at all; came for treatment because of infection of medical student; examination showed gonococci in discharge, and the gonorrhea complement fixation test was positive.

Genito urinary uses: In genito urinary practice the gonorrhea complement fixation test is of value: First, to determine that a patient is absolutely cured of a gonorrhea; therefore, the gonorrhea complement fixation test should be very valuable to patients contemplating matrimony. Second, to determine for medico-legal or other reasons, whether a given acute attack has been recently acquired or whether the present acute attack is a recrudescence of an old latent infection.

This important phase is well seen in a case of Keefe's, reported by E. O. Smith: A young married man acquired gonorrhea and infected his wife. Both were subsequently pronounced cured clinically and microscopically. Six months later the husband returned with a new gonorrhea, two weeks old. He denied extramarital exposure. A gonorrhea complement fixation test done at this time was negative in both husband and wife. The wife had no clinical symptoms. Four weeks later he showed a positive and she still showed a negative, and was still clinically clean. This positive reaction occurring as it did demonstrated the infection to be a new one and the husband later confessed to the exposure.

Primary acute cases that have persisted less than one month give 15.4 per cent. positive, and 84.7 per cent. negative, while acute cases of the same duration, with a history of a previous gonorrhea give 69.3 per cent. positive, and 30.8 per cent. negative, showing that a considerable number are recrudescence and not new infections.

Epididymitis cases. We have had seven cases with two negatives and five positives. This may be explained by the well-known fact that some epididymi do not contain gonococci when they are opened up, and we know from prostate experience that pus organisms can and do cause epididymitis.

Strictures. We have had six cases showing two positives and four negatives showing that the gonococci had done their work and departed.

Chronic gonorrhea. Of these we have had fifty-seven cases; twenty-nine cases of primary and twenty-eight with a history of previous attacks.

The primary chronics show twenty-three positives, or 80 per cent., and six negatives, or 20 per cent. The multiple chronics show twenty-four positives, or 85 per cent., and four negatives, or 15 per cent. This would seem to show that a goodly number of the so-called chronic gonorrheas are not gonorrheas at all any more, but are some other infections; micrococcus catarrhalis, staphylococcus, or what not?

Therapeutic Value.—First the gonorrhea complement fixation test determines absolutely if the disease is gonorrhea, thus giving us a firm basis for giving gonococcus vaccines. It is of value also if one desires to administer gonococcic serum or phylacogen.

Second, since the gonococcus is a polyvalent organism, if the gonorrhea complement fixation test is made in an appropriate manner, it will determine the exact strain of gonococcus that is causing the disease, and a vaccine from that particular strain can be made, and used in that case, it being equivalent to an autogenous vaccine.

Case 98 demonstrates this point: Patient had gonorrhea several times; last attack occurring one and one-half years ago; it was acute for two

months and ever since then up to present time he has had occasional morning drop with meatus always stuck together; prostate nodular urine clear; few shreds; no gonococci demonstrable. The test was done with three different single strain antigens and the reaction was positive with one and negative with two.

The following table shows the result of the test in our first 200 cases. Many of these came in principally for Wassermann reactions—and the gonorrhea complement fixation test was done in conjunction—there is absolutely no relation of the antibodies.

Case	No.	Positives	Per cent.	Negatives	Per cent.
Acute	13	2	15.4	11	84.7
FIRST ATTACK—					
Previous attacks	13	9	69.3	4	30.8
Chronics	29	23	79	6	21
FIRST ATTACK—					
Previous attacks	28	24	86	4	14
Epididymitis	9	6	67	3	33
Joints	7	4	57	3	43
Stricture	5	2	40	3	60
Enlarged prostate and cystitis	3	1	3	2	67

We are under obligation for assistance to Professors Zeit and Kendall, also to Drs. S. Eisenstaedt, Fisher and Schlueter.

PRINCIPLES AND ADVANCED METHODS IN VACCINE THERAPY *

F. M. WOOD, M.D.
CHICAGO

Empirical therapy is being more and more displaced by scientific therapy. The people demand it of the profession and the profession demands it of itself. Dissatisfaction with our ancient methods in therapy has led the public to seek relief in Christian science and mental therapy. We can no longer cling to a therapy that does not satisfy ourselves and the people. For ten years specific therapy has been struggling along until it commands the attention and interest and study of the entire profession. When Wright gave us a practical microscopic demonstration of the principle of phagocytosis and control of vaccine injections in the opsonic index, specific therapy took a long step in advance. This was proof positive that we were able to accomplish something with bacterial vaccines. Experimental testing of this therapy has been persistent for ten years. Hospitals and sanitariums are sending in continual favorable reports. Progress and advancement have been continuous in the knowledge of treatment with bacterins. The experience gained by clinical experiment has evolved some principles on this therapy which may be stated as follows:

* Read before the Kankakee County Medical Society, Oct. 10, 1912.

1. The human system recovers from an infection by auto-inoculation. The anatomy of the mouth, nose and throat is such that a vast area of mucous membrane is there exposed to infection. The lymphoid ring, composed of the tonsils and nasopharyngeal adenoid tissue, is peculiar in this respect. Numerous crypts and sulci pierce the depths of the tonsils and adenoids. These crypts continually pour forth numerous leukocytes of all kinds into the oral and nasal cavities. The nose with its many accessory sinuses, the frontal sinus, the maxillary antra, the ethmoid cells and the sphenoid sinuses, are all lined with mucous membrane, and subject to infection. The white cells of the blood are the scavengers of these areas, they combat every foreign substance attacking the mucous membrane lining these areas. When a patient is attacked by virulent bacteria in any of these cavities, we call it a rhinitis or tonsillitis, according to the area attacked. The bacteria have penetrated the membrane; the submucosa as well as the mucosa is swarming with leukocytes. These attack the bacteria and destroy them, then pus appears, the patient swallows it, thus vaccinates himself, reaction takes place, with fever and further death of bacteria, and with a favorable reaction and the formation of sufficient opsonin to destroy the bacteria, the patient recovers. The favorable reaction is hastened by a dose of bacterin.

2. Small doses of bacterin are indicated in acute infections, large doses in chronic. The main reason for this is that the wall of fixed tissue cells surrounding the infection is practically *nil*, and the absorption of bacterial toxins is relatively large; the only obstacles in the way of bacterial invasion are a wall of fibrin and leukocytes. While in chronic affections there is a thick wall of fixed tissue cells and epithelioid cells surrounding the focus and the absorption of bacterial toxins is relatively small. It, therefore, requires a greater number of bacteria to produce a leukocytosis and the favorable issue.

3. The clinical symptoms are a valuable guide as to the dose and time to administer the vaccine, while agglutination serum tests and the opsonic index are checks which may be employed with great advantage. Each return of unfavorable symptoms indicates a new brood of the invading bacteria, which is well indicated also by leukocytosis. A leukocytic count will often aid as much in indicating the spacing of the doses as any other measure.

4. Correct bacteriologic diagnosis is essential to success in this therapy. Every clinician will find it to be of distinct advantage that he become an expert in bacteriologic diagnosis. The clinic and the laboratory are inseparable when good work is to be done in this therapy; and advanced methods require careful work in bacteriologic as well as in symptomatic diagnosis.

5. Mixed vaccines are best in mixed infections. The long process of estimating the opsonic index of the various germs in a mixed infection with their careful isolation in a series of cultures has proven over and over again to be a waste of valuable time, which might result in the loss of life to the patient. While the use of a mixed bacterin prepared from

the infecting focus will often abort the entire process and save him untold suffering.

6. Autogenous vaccines are valuable in most cases. There is a place also for stock bacterins in prophylaxis, and in chronic infections. The use of typhoid bacterin to prevent typhoid is sufficient proof of this. The infecting strain of the staphylococcus or streptococcus involved is often missing in a stock bacterin. The strains of the streptococcus are numerous; the stock vaccine may contain the one in the infection being treated, or it may not. Failure often comes where stock vaccine is used, especially where the bacteriologic diagnosis is uncertain, when the use of an autogenous bacterin solves the problem. Stock bacterins prepared by the various commercial houses in acne, tuberculosis and for the prevention of typhoid fever, have been used successfully. They are of great value as a prophylactic in initial doses in acute infections, while the autogenous bacterin is being prepared. They can be used often with advantage where the preparation of a bacterin from the patient is a slow process, as in acne and tuberculosis.

7. The time to administer the vaccine is when the second positive phase is rising, or is at its height. After a dose of vaccine the index rises for a certain short initial period, then falls. The vaccine is given when the index rises again on its longest rise prior to the subsequent long negative phase. The vaccine should not be given during this negative phase, unless one wishes to have a prolonged continuance of unfavorable symptoms, and if the dose is large, even lose his patient in grave cases. The time to administer the vaccine in febrile cases is at the beginning of the second rise of temperature.

8. The reaction period should not be entirely complete before the next injection, to avoid severe anaphylaxis in virulent infections involving large areas. Rosenow says that the pneumococcus, strepto muc. capsulatus, *B. typhosis*, *B. coli* and the spirillum of Metchnikoff, at certain periods of their autolysis, either in salt solution (or human serum *in vivo*) become very toxic, and the liberation of these toxins produces all the symptoms of anaphylaxis.[1] This is just what takes place in the human system following the infection of a new area or the administration of a bacterin at the improper interval, the liberation of large doses of these toxins, and produces only harm; administered at the proper interval they heighten all the protective processes and only do good.

9. The vaccines should be sterile and their administration be done in an aseptic manner. The vaccines are made sterile by the use of certain antiseptics in 1 per cent. solutions; iodin, trikresol or phenol may be used. The injections are made deep into the submucosa, where the blood supply is sufficient for their rapid absorption. The skin is cleansed with alcohol.

10. The blood-supply to the part infected is made certain by the use of Bier's hyperemia, if necessary, and the fluidity of the blood is secured by the use of sodium citrate or lemonade; this later is to cut down any

1. Rosenow, E. C., Chicago: Production of Anaphylactic Substances by Autolysis of Bacteria and Their Relations to Endotoxins, Jour. Infect. Dis., Chicago, January, x, No. 1, pp. 1-28; abstr., Jour. Am. Med. Assn., Feb. 3, 1912, lviii, 369.

excess of fibrinization. Elimination following the use of the vaccine to rid the system of destroyed bacteria and their toxins, by the use of calomel and the enema is essential to success in carrying out this therapy.

SOME ADVANCED METHODS IN CERTAIN DISEASES

1. *Abscesses, acute gonorrhea, fistulae, ulcers, acne and eczema* may be best treated by the alternate local application of vaccine. The vaccine for local application may be applied in concentrated form, in half dram doses to abscesses, by injecting it into the abscess. Reaction is often marked, chill may occur, but rapid cessation of the discharge results. In ulcers the vaccine is rubbed in thoroughly over the floor of the ulcer with cotton swabs. In acute otitis, the vaccine is pumped into the middle ear with Siegel's otoscope. In acne, the vaccine is applied to the pustules after they are opened and emptied of their purulent contents. The reaction is often marked and no injection of the vaccine should be given at the time of the local application, as the autoinoculation from the manipulation of the pustules is sufficient. Chronic gonorrhea requires large doses of mixed bacterin, for the infection is usually a mixed one. Acute gonorrhea is benefited by drop doses of the bacterin applied locally as far back as the infecting focus. The principle involved here is, that no living thing can live in its own excreta.

2. *Pneumonia, bronchitis and tuberculosis.* Mixed bacterins are especially valuable in all lung infections, as the flora of the mouth get into the lung. The failure to cure pneumonia with pure pneumo-bacterin is often due to the fact that the infection is a mixed pneumo-strepto, *M. catarrhalis,* influenza, *B. coli* infection.

3. *Tonsillitis, neuralgia and rheumatism.* (Kindly note the grouping here.) These affections are more often associated than not. In a recent case under my care, the father had acute inflammatory rheumatism, with joint involvement. The younger son came down with acute tonsillitis, with a subsequent slight involvement of the joints; an older brother came down with a tonsillitis; all three had the same streptobacillus malae in the cultures made from their throats, and all three recovered from injections of the vaccine made from these cultures. Neuralgia is amenable to bacterins prepared from cultures taken from the margins of the gums. Acute tonsillitis is aborted by one or two doses of bacterin in from twelve to twenty-four hours, administered orally in children. Scarlet fever epidemics will soon become impossible. Bacterins from the throats of infected cases protect those who have been exposed and cause rapid convalescence, with no complications, in those who have been infected. Oral administration of bacterins is a valuable procedure. The reaction is less marked, but the therapeutic result is good, especially in nasopharyngeal infections. It is of especial value in treating children where the use of the needle is inadvisable.

The Relation of Vaccine Therapy to Our Therapeutics.—The advance in the treatment of infection by the use of biological products has been steady and certain. The bacterins are not cure-alls, nor must we regard

them as the universal panacea for all diseases. I have only to call your attention to the former means of treating infected foci to bring out the relative value of the use of the bacterins.

The methods of treating infection may be enumerated as follows: 1. By the use of chemical antiseptics. 2. Extirpation of the foci. 3. Determination of a fresh supply of lymph to the part infected. 4. Serum therapy. 5. Expectant treatment. 6. The bacterins.

This is the classification of Sir Almroth Wright, and cannot be improved on. It will serve to aid us in the consideration of the relative value of our methods of treatment.

1. The use of chemical antiseptics has been, and is still used, by a very large body of the profession. Its limitations are worthy our consideration. The problem of finding an antiseptic for application to infected foci, which would at the same time destroy the invading microorganisms and leave the tissue cells unharmed, has as yet not been solved; for this reason their use has very largely been abandoned by the men who are foremost in the treatment of infections.

2. The extirpation of the infected foci. This procedure is most often attended with danger to life and disfigurement. It is often essential to carry it out in order to prevent extension of foci, but if it may be avoided, such a decision is of value to the patient. The extirpation of foci often fails by opening a wider field to the invasion of the virulent microorganisms. It may succeed, if the infection is non-virulent, and the patient's resistance is good, but failing these, the patient often succumbs in spite of eradication. The opening of a focus often succeeds of itself in flooding the focus with lymph rich in antibacterial substances and thus healing and cure results.

3. Lymph determination. Bier's hyperemia and hot applications may succeed when we have a blood rich in anti-bacterial substances, but if these are lacking, what then? We may also have a lymph so rich in certain fibrin-forming salts that it coagulates in a wide area surrounding the focus, thus effectually shutting off the supply of fresh lymph. Here then we must have recourse to the use of defibrinating agents such as citric acid or lemonade. Again we may have a condition in which there is little fibrin formation, and the coagulating index is very low. Here, then, obviously, the barriers to the spread of infection are removed and hyperemia of foci is contra-indicated. We must attempt to supply those salts which will restore the coagulating power of the blood. This may be done, as already pointed out by Wright, by the use of calcium lactate or chlorid, or better, the use of lime water and buttermilk.

4. Serum therapy. The value of antitoxin in tetanus and diphtheria is unquestioned, but the various serums prepared from germs that do not produce soluble toxins are not of great value, and are perhaps only bacterins diluted with the serum of the animals inoculated. These later are the various antistreptococcic serums, which are of undetermined strength and doubtful value.

5. Expectant treatment. Undoubtedly natural resistance is capable of throwing off 90 per cent. of all the infections which attack us, but it is the

other 10 per cent. that we must attempt to save. Then again, the body may be able to survive infection, but not without mutilation and functional impairment. We must make the attempt to assist Nature and prevent this.

6. This brings us to the consideration of the use of bacterins in this work. The skin is the natural protector of the body. Biologically the ectoderm, and all the tissues which spring from this germ layer, are for protection. The inoculation of a bacterin into the submucosa brings into activity all the protective forces. The opsonins are the result of the reaction of these protective forces. They are perhaps chemical substances produced in the bodies of the phagocytes, and possibly some other of the protecting cells. The use of the bacterin floods the patient's serum with bacterial toxins, every protecting cell reacts to this substance producing antibacterial substance; this again floods the serum with opsonins, bacteriolysins, or agglutinins, according to the bacterium used in making the vaccine. The formation of opsonin at once stimulates the leukocytes to increased activity, and they attack the original focus, break down the wall of surrounding fixed tissue cells, fibrin, lymph and coagulated blood; carry that away, gain access to the focus, ingest the bacteria, digest them, or carry them away for excretion through the kidneys. Now, an excess of this process is a danger. It may flood the serum with the endotoxins of the dead bacteria and set up a dangerous condition of toxemia; the unfavorable negative phase may follow both the use of large doses and the administration of doses given during the negative phases, when the patient's resistance is low.

The bacterins then reach the microorganisms, which the surface application of chemical antiseptics cannot reach. They may be used to forestall the use of the knife in the acute infections, where little destruction of tissue has taken place, and will often abort these foci. They may also be used to aid in the softening of old foci, such as tubercular cervical lymph glands. Then, by the use of the knife and the consequent flooding of the foci with lymph rich in antibacterial substances, these foci will heal, and thus avoid the necessity of disfiguring operations.

The use of the bacterins may also come to the aid of serum therapy in eradicating the bacilli that may persist after the antitoxin has done its work of neutralizing toxin. The waiting method has no place, where we have a method as accurate as this, for aiding the body in producing the antibacterial substances, which it is already trying to produce. This is especially true where we have an advancing focus or an infecting process in which the blood is deficient in protective substances, as is readily shown by agglutinating reactions and opsonic indices. It is also true in infections where foci are surrounded by coagulated lymph or much fibrous tissue; and it may be said also to be true, even in those grave septic processes, where the protective substances in the blood-stream are all but exhausted; if we come to the rescue in time, we may produce enough of the antibacterial opsonins, agglutinins and bacteriolysins locally, to once more flood the blood-stream, and save the life that is ebbing away.

The Immunizator.—The physician of the future has already become an immunizator, as Wright predicted. We can even expect perfection of these methods in the future. The examination of bacterial toxins is still little understood, and the true mechanism of the formation of the various protective substances is still unknown. Biologic chemistry is still a matter of theory. We have yet seen only the glimmerings of the dawn of the day of the immunizator.

Research Work.—The clinic and the laboratory should work hand in hand; there is a great field open to the investigator, who will use his microscope and his brains in his every-day practice. It is with urgent interest that we call your attention to this open door to distinction and great public service. Many problems are still unsolved. Cancer, nephritis, diabetes still await a solution.

New Discoveries.—It may not lack interest that a bacterin has been prepared for psoriasis. Dermatologists have searched long and in vain for a bacterium causing this disease. In August, 1911, it was my good fortune, while taking cultures from various ulcers and eczemas, to take one from a case of psoriasis, when to my surprise, I succeeded in growing a fungus on blood-serum, the exact miniature of the large patch on the skin. I hastened at once to make transplants of this culture and to make a bacterin. From the use of this bacterin, both locally and hypodermically, this case of psoriasis has so much improved that it appears that we have succeeded at last in isolating the cause of psoriasis. I have isolated the same fungus from another case of psoriasis. To date the original case is still under treatment with lesions not advancing. Both local application and inoculation has been practiced in this case.

Luetin.—It may interest you also, to know that in January, 1911, the writer conceived the idea of a skin test for syphilis, and prepared an emulsion of *Spirochæta pallida* for use, in a similar manner to that of Von Pirquet in tuberculosis, and that a reaction was obtained, also, in syphilis. This work was begun in January, 1911, and mentioned to Dr. S. S. Graves, Dr. Frederick Test and to Dr. Fred Harris, of Chicago. Since that time Dr. Noguchi has announced a similar work confirming this reaction in over 500 cases of secondary and tertiary syphilis. Dr. Noguchi has shown that this reaction does not occur in the primary stage of syphilis.

New Investigations.—The use of diphtheria bacterin in true diphtheria is a worthy field of investigation, and has been carried out by Hewlett and Naukwell, of London and Petruschky, of Berlin, for the purpose of eradicating the bacilli in the throats of convalescents and bacillus carriers, and that the dangers of horse-serum anaphylaxis may be avoided. Favorable results in twelve cases have been thus far reported. Tetanus bacterin is worthy of a trial in tetanus. Emulsion of leukocytes and fixed tissue cells when sterilized and injected, produce lysis of the corresponding cells. Emulsions of cancer cells are now being used by French physicians to produce lysis of cancer tissue, and in hopeless cases of cancer many favorable results have been obtained. This method of treating cancer

deserves careful investigation, and points toward a favorable result in combating this, perhaps the most deadly scourge of the race.

Specific therapy demands the most painstaking efforts and the most careful research work, but the rewards are great, for it is in the highest sense a life-saving work, the honors are sufficient to satisfy the highest cravings of the soul.

15 East Washington Street.

BRILL'S DISEASE, MILD TYPHUS FEVER, IN THE MICHAEL REESE HOSPITAL*

[From the Department of Clinical Research, the Michael Reese Hospital, Chicago.]

SOLOMON STROUSE, M.D.

CHICAGO

In 1910, N. E. Brill[1] described "an acute infectious disease of unknown origin," based on a clinical study of 221 cases at the Mount Sinai Hospital, New York City. This disease, according to Brill, "can have no relation to typhoid fever *per se*, but . . . it has a distinct clinical entity entirely separate from typhoid, from typhus, or from any other disease known to me." This disease became known in the literature as Brill's disease, and a small but most interesting series of studies has appeared. In this communication it is my purpose to review the subject critically, and to add some new cases from Chicago.

The definition of the disease can be given in no better form than by quoting verbatim from Brill's report: "An acute infectious disease of unknown origin and unknown pathology, characterized by a short incubation period (four to five days), a period of continuous fever, accompanied by intense headache, apathy and prostration, a profuse and extensive erythematous maculo-papular eruption, all of about two weeks' duration, whereupon the fever abruptly ceases either by crisis within a few hours, or by rapid lysis within three days, when all symptoms disappear." As contrasting with the symptoms of typhoid fever, emphasis is to be laid on the short incubation period and sudden onset, generally with a chill. Headache is intense, conjunctivae are congested. About the sixth day a characteristic rash appears. At first found over the abdomen and back, it quickly spreads to the thorax and to the arms and thighs, and occasionally to the neck, forearms, hands, legs and feet. The rash is dull red, very slightly raised, does not disappear on pressure, does not appear in crops, is profuse and is distinctly erythematous, differing in all these respects from the rose spots of typhoid fever. The pulse is not high— 86 to 100 per minute, is soft, full, of low tension and often dicrotic. The temperature reaches its fastigium on the second or third day, remains constantly high till just before the crisis, when a precritical rise may occur. On the

* Read at the Sixty-Second Annual Meeting of the Illinois Medical Society, held at Springfield, May 21-23, 1912.

1. Brill: An Acute Infectious Disease of Unknown Origin: A Clinical Study Based on 221 Cases, Am. Jour. Med Sc., 1910, cxxxix, 484.

twelfth to the fourteenth day the symptoms disappear, the temperature drops, and the patient feels perfectly well. Constipation is a marked feature of the disease. The spleen is frequently, but not always, enlarged. Associated with intense headache are extreme apathy and a facial expression of great pain.

Bacteriologic and blood studies show some further differences from typhoid fever. The average blood count is from 9,000 to 11,000, and the leukopenia of typhoid is lacking. The average differential count showed 69.4 per cent. polymorphonuclears, and 30.6 lymphocytes. As for the Widal reaction, in not a single case was a positive reaction ever obtained, even though the test was done daily in most of the cases. Blood cultures were persistently negative, and attempts to isolate a specific microorganism from feces and urine were also unsuccessful. The negative blood cultures performed in an institution where positive cultures are obtained in nearly every case of typhoid fever, and the entire absence of the Widal reaction are in themselves sufficient evidence that the disease is not typhoid fever.

None of the cases in the first series had ended fatally, so that pathologic data are completely wanting. In a second report[2] one autopsy is recorded. This showed absolutely none of the characteristic lesions of typhoid fever, and gave no specific picture. The lesions found were the congestion and parenchymatous changes of a severe toxemia.

In this brief condensation we have attempted to describe Brill's disease, and to emphasize the points wherein it differs from typhoid. Anyone who has just read a description of typhus fever must have been struck by certain clinical similarities between the two diseases. In fact, Brill says: "In the case of an epidemic of typhus fever, in my opinion, it would be simply impossible to say that these cases were not mild typhus fever. From the clinical aspects no lines of demarcation can be fixed." However, this disease was not virulent, was constantly present in New York, was not communicable; and until typhus fever was shown to have been so changed by its environment as to have acquired these characteristics, Brill was decidedly of the opinion that his disease must be other than typhus.

About one year later, Louria[3] reported eighteen cases of the disease from Brooklyn, and his conception of the disease is that it is merely attenuated typhus. Friedman,[4] in the same year, in a critical clinical review of endemic and sporadic cases of typhus in Russia, concludes that these cases and Brill's are absolutely identical, and Cheinisse[5] holds the same opinion regarding some cases he saw in France. Brill,[6] however, in a subsequent note again states that he does not think his disease is typhus fever.

2. Brill: Pathological and Experimental Data Derived from a Further Study of an Acute Infectious Disease of Unknown Origin, Am. Jour. Med. Sc., 1911, cxlii, 196.

3. Louria: Brill's Disease, Med. Rec., 1911, lxxx, 424.

4. Friedman: Brill's Symptom-Complex; Typhus Fever; Manchurian Typhus, Arch. Int. Med., 1911, viii, 427.

5. Cheinisse: La "Maladie de Brill," est elle une Entité Morbide Nouvelle? Semaine méd., March 27, 1912, xxxii.

6. Brill: Jour. Am. Med. Assn., 1911, lvii, 1854.

Thus the matter rested on purely clinical grounds until Anderson[7] and Goldberger[8] applied experimental methods to the study, and to our mind clearly demonstrated the identity of Brill's disease and typhus fever. Struck by the clinical similarities between Mexican typhus, which they were investigating, and the disease described by Brill, they attempted monkey inoculations with blood of patients suffering from Brill's disease. Brill had already made unsuccessful efforts to transfer the disease to monkeys, but Anderson and Goldberger succeeded in their attempts. In the monkeys successfully inoculated, after an incubation period of five to fourteen days, a rapid rise of temperature ensued, falling by rapid lysis or crisis after about nine days. An eruption was never seen. The disease thus produced in monkeys by inoculating the blood of a human could be transferred from monkey to monkey, and in one case it has been carried through fifteen generations. Having shown that the Rhesus monkey is susceptible to Brill's disease, Anderson and Goldberger next attempted to study the relationship between this disease and Mexican typhus. In a most striking series of perfectly controlled experiments they demonstrated that monkeys which had recovered from an inoculation with blood of Brill's disease were immune to subsequent infection with Mexican typhus, and, vice versa, monkeys which had recovered from Mexican typhus were immune to Brill's disease. We agree thoroughly with their conclusion that "the disease described by Brill is identical with the typhus fever of Mexico, and inasmuch as the New York strain is undoubtedly of European origin, we may also conclude that the typhus of Europe and the tabardillo of Mexico are identical."

Thus, by an ideal combination of most accurate clinical observation and of scientific laboratory investigation a new chapter is introduced into the story of typhus fever. This disease can no longer be considered only as a highly virulent contagious epidemic, but the non-virulent endemic or sporadic type of the disease must be recognized. The disease is still a malady of bad sanitation and filth, and its mode of propagation is understood. Anderson and Goldberger[9] review all previous work and add original experiments of their own to show that body lice and head lice may convey the disease. The importance of these observations will be discussed later.

If typhus fever is endemic in New York, especially amongst the immigrant classes, it is only logical to assume that the disease will be found in other localities, like Chicago, where both immigrants and lice may be said to abound. Before the nature of Brill's disease was settled, I was interested in finding cases of it in the wards of the Michael Reese Hospital, and I am indebted to members of the staff for the privilege of reporting some cases which I believe must be classed under the disease we are studying.

---

7. Anderson and Goldberger: The Relation of So-Called Brill's Disease to Typhus Fever, Pub. Health. Rep., Feb. 2, 1912, xxvii.

8. Anderson and Goldberger: The Experimental Proof of the Identity of Brill's Disease and Typhus Fever, New York Med. Jour., 1912, xcv, 976.

9. Goldberger and Anderson: The Transmission of Typhus Fever, with Especial Reference to Transmission by the Head Louse (Pediculus Capitis), Pub. Health Rep., 1912, xxvii, 297.

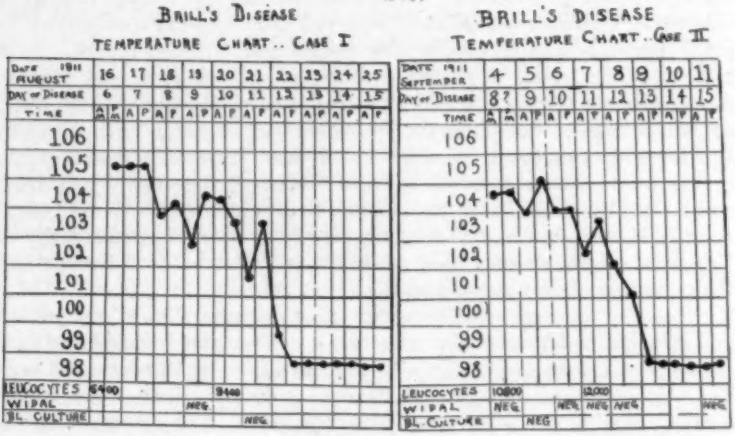
CASE 1.—I. M., Russian Jew; male, aged thirty-five years; entered the hospital August 7, 1911, complaining of general malaise. Five days before admission he had general weakness and pains throughout his body. That afternoon he had a chill, followed by perspiration and a feeling as of fever. Chills were repeated, and an agonizing, persistent headache was complained of. Appetite poor; bowels regular. Vomiting once, on the second day of the illness. History otherwise is negative.

Past History: Entirely negative. Patient came to this country from Russia five years ago, and has lived in Chicago constantly since then.

Family History: Negative.

Physical Examination (abstracted): The temperature was 105°, pulse 144, respirations 40. A few crepitant rales were present in the lower border of the right lung. Spleen was not palpable. "*No Rose Spots*," but a "few macular spots are present on abdomen, lower chest and back." Otherwise the examination was completely negative.

On the day of admission the blood showed 79 per cent. hemoglobin, 4,600 leukocytes, and no malaria parasites.



The next day marked apathy of the patient is noted, and the rash is described as follows: "No rose spots are seen. A maculo-papular rash, quite diffuse, over chest, back and abdomen, less marked on extremities. Face is exempt. The color is dull red or reddish-brown. No pruritus." On the twenty-first, five days after admission and the eleventh day of the disease, the rash had almost disappeared, leaving a few areas of pigmentation. The headache has almost completely disappeared.

The course of the temperature is given in Chart 1.

Two Widals and one blood-culture were negative; the urine showed nothing remarkable. On the tenth day of the disease the white count was 9,400.

Summary of Important Points: 1. Short incubation period. 2. Sudden onset. 3. Chills, headache and apathy. 4. A fairly constant temperature, falling by crisis over night, on the eleventh day. 5. A maculopapular rash. 6. Negative blood culture and Widal reaction, with leukocyte count of 9,400.

A case with these characteristics formerly would have been entered under the diagnosis of "ephemeral fever," "febricula," or some other waste-basket into which are dumped all the unknown febrile diseases.

With our present knowledge, however, it seems to me that the disease must be called typhus fever. At the time the patient was in the hospital he was shown as a case of Brill's disease.

CASE 2.—Mrs. Y. B., Jewess; aged 38 years; entered the hospital Sept. 4, 1911, complaining of general malaise. About seven days ago illness commenced with headache, dizziness, anorexia. Four days ago (September 1) headache was more severe, and she felt hot and feverish. Bowels regular.

Past History: Negative. (No mention made of residence.)

Family History: Negative.

Physical Examination: Is completely negative except for the presence of a maculo-papular rash on chest, abdomen and extremities. Temperature 104°, pulse 96. Spleen is not palpable. Blood-examination showed a leukocyte count of 10,800. The temperature course is seen in Chart 2.

Five Widal tests and one blood-culture were negative. The urine showed nothing of note. The leukocyte count varied from 10,000 to 12,000. Differential count: Polymorphonuclear leukocytes, 68 per cent.; small mononuclears, 28 per cent.; large mononuclears, 2 per cent.; eosinophils, 2 per cent. Red blood-corpuscles, 4,280,000. Hemoglobin, 82 per cent.

On September 7 the temperature was 103.8°; the next day it was 101°, and on September 9 it reached normal, remaining normal until the patient left the hospital. When the temperature dropped, the headache ceased, the rash disappeared, and the patient felt well.

Although the course of this case is not as sharply defined as Case 1, still it seems to me to be definite enough to warrant its inclusion in this group. Two other cases are recorded as Brill's disease on the records of the hospital, but as in each case one or two points are not discussed, it seems best not to report them. The records here given, however, show clearly that typhus fever has occurred in Chicago, and probably will be found to occur much more frequently as clinical interest becomes more centered on the affection.

The importance of finding the disease in Chicago is by no means limited to a mere diagnostic interest. The chances of typhus fever being sporadic or even endemic in the large cities of the United States must be considered. Although the researches showing the transmission of typhus by lice rob the disease of its historical awe-inspiring danger, it must, nevertheless, be remembered that the mild type described by Brill is the same disease as the severe type seen in Mexico. It is highly probable that the disease seen in the United States will remain the mild type, and it is just as probable that it will be found in most large cities. Nevertheless, it must always be borne in mind that the transition of the disease from Brill's type to the Mexican type is not impossible. For these reasons clinicians and Boards of Health should be on the constant lookout for the malady.

If I have succeeded in stimulating your interest in this new type of an old disease, the purpose of this paper will have been fulfilled.

Since this paper was read several new cases have been seen in the hospital.

104 S. Michigan Avenue.

MILK *

J. W. VAN DERSLICE, M.D.
Assistant Professor of Pediatrics, Rush Medical College
OAK PARK, ILL.

Milk is the one article which is used universally by man as food. That it is so largely used in the dietaries of infants and invalids makes it of extreme importance to the physician.

Milk was not intended to be exposed to air, but was intended to pass directly from the teat to the mouth of the consumer. This fact in itself probably explains why cows' milk normally contains bacteria. The bacterial content of milk has during the past few years attracted the attention of the medical mind and, by an immense amount of work by our medical laboratory men, there is beginning a new dawn in the understanding of this most important food product. The rôle of the various bacteria, however, are but little understood. The large percentage of bacteria found in milk are the so-called lactic acid forming group. It is quite generally believed that the products of decomposition produced by these microorganisms are not harmful to man, but on the contrary, are beneficial. If this be true, why all this agitation for a milk with a low bacteria count? This is explained by the fact that our best means of knowing the past history of a given sample of milk is determined by the bacterial content. A high bacteria count must mean one of three things: milk that is either a dirty milk, an old milk or a milk that has been kept at a relatively high temperature. The temperature at which a milk is held for any considerable time very largely governs the type of the bacterial content; that is, a milk held at body temperature gives the best culture media for those contaminated by organisms which came from the cow or from the milkers, while milk held at room temperature will best develop the bacteria found in the food or dusty air. Thus it is found that milk held at a given temperature will, with the development of a high bacteria count tend to a monotoype content, as in buttermilk, where there are usually found but two or three varieties of the lactic acid forming group.

Bacteria in milk develop best between the temperatures 70 and 100° F. They do not grow at a temperature but slightly above this and they cease to grow at about 40° F. The bacterial contamination in milk comes from the cow, as the falling of hairs, droppings, and dirt in the milk from the body of the cow; dirt and dust, cobwebs, etc., from the barn and dust in the air; to this the factor of the milker must be added, and here is found one of the very important elements. Whether the milker is clean or not decides very largely whether there be contamination that is harmful to man or not.

Ordinary commercial milk as sold in Chicago is classified under two headings known as "milk bottled in the country" and "can" milk. With the first class the farmer delivers his milk to the factory where it is

* Read before the Chicago Medical Society, Oct. 9, 1912.

weighed and, in many of them, the cans are washed and placed over live steam before being returned to the owner; for this milk the farmer is paid a graded scale ranging from $1.00 to $1.90 a hundred pounds, or forty-six quarts. The "can" milk is shipped to Chicago and is picked up at the railway depots by the distributor; for this milk a slightly higher price is paid to include freight and other overhead charges. The collection of these accounts can be insured for two cents a can by certain brokerage firms. A very large proportion of Chicago's milk-supply is produced in northern Illinois and southern Wisconsin. The Northwestern and St. Paul roads bring in more than 65 per cent. of the total, and a much larger percentage of the bottled milk. McHenry and Kane counties are the third and fourth milk producing counties in the United States.

When the milk is brought to the factory the milk is first run through a so-called clarifier; in this process the larger pieces of dirt, hair, etc., are sifted out. This may be a salutary effect from the distributor's point of view, but in this process the clumps of bacteria are broken up and there is an apparent increase in the bacterial count. The milk is then run through the so-called pasteurizing process; these are practically all "flash" method pasteurizers, and the milk is supposed to be heated momentarily to 160° F. That there is a very wide difference of opinion in regard to this question of flash method pasteurization may be learned by the reading of two articles in the *Jour. A. M. A.*; one by Miller and Capps, showing the inefficiency of the pasteurization by a plant at Batavia and a later article by Heinemann in which he considers the pasteurization at said plant efficient, though the records on the machine show a much lower temperature than 160° F. There is to-day but a very limited number of medical men who are willing to stand sponsors for this sort of a "pasteurization." The question as to the advisability or non-advisability of pasteurization is not under discussion. It is this farce of running milk through a machine and labeling it pasteurized, thus giving the laity a sense of false security that is so strongly objected to.

During the summer a new angle of the milk game was brought to my attention, one that I had never heard of before. In conversation with the superintendent of one of these factories, he stated that "last winter was a very bad one for the dairyman. Because of the oversupply of milk it was necessary to put the milk in cold storage until a market could be made for it." So that when one asks how old is the milk that is delivered in Chicago, the best answer is "how old was ANN?"

It may be interesting to know that the average bacterial count made by the Chicago Health Department of all pasteurized milk from August 1 to December 30, 1909, according to Whittaker, was 944,000.

Commercial pasteurization has proven to be inefficient up to the present time so that where one desires a pasteurized milk, it is necessary to pasteurize in the home.

The Chicago Medical Society Milk Commission was organized in February, 1910. At that time there were four farms selling milk supposedly of a grade equal to certified milk; of these three applied for certification; on inspection only one of these was found to be of a standard

that could be accepted. By May the other farms had put in improvements such as entitled them to certification. To-day we are certifying to the product of thirteen farms: Edgewood, Pewaukee Lake, Wis.; Arcady, Lake Forest; Sedgeley, Hinsdale; Park, Wern and Pleasant Valley, Waukesha; Brookhill, Genesee depot; Hawthorne, Hartwood, Wakefield and Otis, Barrington.

The Chicago Medical Society Milk Commission certifies to milk of varying fat content; from Holstein cows with a fat ranging from 3.50 to 3.75; from Brown Swiss and mixed herds averaging 4 per cent., and from Guernsey herds with a fat range of 5 to 5.50. The herds have been tested with tuberculin this year by the United States Department of Agriculture and all reacters removed. The bacterial content has been extremely satisfactory. Eighty-two per cent. of samples of milk examined had a content of less than 5,000 per c.c., while some were as low as 100, 200 and 300, and many of 500 and 600.

What is certified milk? It is a milk originally designed for infants and invalids; it is produced under a contract with a milk commission of a county medical society; it is milk with which every precaution has been taken to insure freshness, cleanliness and wholesomeness. The Chicago Medical Society Milk Commission requires that it be drawn from tuberculin tested cows, which show no signs of ill health; cows that have been cleaned with brush twice a day; whose flanks and udders are washed immediately before milking. It is milked into small topped milking pails with gauze strainers; all utensils with which the milk comes in contact must be thoroughly cleaned and sterilized before each milking. The employees handling the milk shall be healthy; must wear clean white milking suits at milking time; they must wash their hands before milking each cow. The food given the herd must be such as meets the approval of the commission.

The milk is examined chemically and microscopically each week. The farms are inspected each month or oftener. The United States government veterinary experts make examinations each month.

The milk is removed from the barn as soon as milked; it is immediately cooled and bottled; all the milk is then immediately packed in cases filled with ice and the temperature thus maintained at about 40° F. until delivered to the consumer.

Certified milk retails for fifteen cents per quart. The extra price is all expended in the extra care and safeguards to the milk. The percentage of profit is less in certified than in commercial milk. It is well to remember that in the increased price of certified milk that the increase in quality far exceeds the extra price. In purchasing most foodstuffs quality is usually the controlling factor. That this is not also true of milk is simply lack of knowledge on the part of the consumer. There are however many reasons for this and to a very large extent it can be traced to the distributor. It is the experience of most commissions that the distributor handles certified milk not because he wants to, but because he must in order to hold his business and as a method to sell his milk for a greater price. Most milk distributors have little sympathy for the move-

ment; their controlling factor is to pay as small a price as possible for any milk and sell it at the highest price possible. Incidentally it might be well to remind one that the farmer receives about 40 per cent. of the cost to the consumer of commercial milk and for certified milk the farmer receives over 53 per cent. of the consumer's cost. Certified milk is distributed to every part of the city and most of the suburbs.

There has been no influence which has done more to draw the attention of the public to the importance of a pure milk supply than the Association of Medical Milk Commissions. In the rural district where one or more farms produce certified milk, there is seen the influence spread out for a bettering of sanitary conditions on all surrounding farms. The production of certified milk has demonstrated the possibility of the production of a clean, safe, raw cows' milk. The commission believes that prevention is better than cure; that milk that is kept clean is better than a half-cooked dirty milk. That the aim must always be for a milk that is produced under sanitary conditions; that so long as the cleaning of dirty milk must be in the hands of untrained men, with percentage of profit as the keynote for their actions, so long will commercially pasteurized milk be an unsafe food.

The certified milk movement has been and is a medical movement; the medical idea is the controlling factor; the medical profession is responsible for this product; the medical profession for self-defense alone, if for no other reason, should be familiar with certified milk, its production and its uses. The medical profession should know whether it is a good thing or not. If it is a good thing then the profession should be active in its propaganda.

155 North Ridgeland Avenue.

THE ESSENTIALS OF THE NEW CHICAGO MILK ORDINANCE *

WILLIS O. NANCE, M.D.
Chairman Chicago City Council Committee on Health
CHICAGO

In submitting this brief paper it is understood that the writer will confine his remarks to the presentation of the essential features or provisions of the recently enacted Chicago milk ordinance and a short résumé of the conditions which led up to its passage. I shall not attempt to discuss the provisions of an ideal law for the regulation of the milk-supply of a city of two and a half million people. I do not know that I would be competent to do so should I have the inclination. Let me state in beginning that the recently adopted ordinance is by no means perfect in its construction or provisions. None of its framers ever claimed that it was, and few, I fancy, are more cognizant of its shortcomings than are those who took part in its preparation. I have, however, no apology to

* Read before the Chicago Medical Society, Oct. 9, 1912.

make for its adoption; its passage was accomplished under the most trying circumstances and its enrolment on the municipal code of Chicago is in my opinion one of the notable victories for public health of recent years.

The circumstances leading up to the preparation and the passage of the ordinance are familiar to many of the profession and to some extent, the public. They are, I believe, of sufficient interest to bear brief repetition here.

The necessity for placing some legislative safeguards about the milk-supply was occasioned by the passage of the so-called Shurtleff Act at Springfield, which act, incidentally one of the most unwise pieces of legislation enacted in recent years, prohibited cities from enforcing the tuberculin testing of cows. The Commissioner of Health discovered that the old ordinance requiring pasteurization where successful tests had not been made was not being observed. He asked for an opinion from the city law department. Then came the decision that left Chicago without protection at the source of its milk-supply. The law department held that the section of the ordinance concerning the handling of milk on the farms was so dependent on the city's right to require the tuberculin test that it was completely invalidated. The authority of the health department in the matter was reduced to practically nothing. The Commissioner called attention to the condition to the Mayor, who, in turn, referred it to the City Council. The communication was sent to the Committee on Health. The rest of the story is familiar to all. The ordinance approved by both the health department and the council committee on health was on July 22, the last meeting of the Council before the summer vacation, defeated. Then following a storm of protest on the part of the public and the press, the special meeting of the City Council on August 15, and the passage of the present ordinance.

Much labor and time were spent in the preparation of the ordinance. It was known that a compromise ordinance would of necessity have to be submitted in order to pass. The committee on health, after many conferences, recommended the present ordinance. It was felt that the ordinance was the best that could be framed at the time and that it would be much easier to amend the act after it once became a law. The ordinance is now in effect and its enforcement already has been the means of improving the wholesomeness of our milk-supply and thereby undoubtedly reducing the number of cases of illness due to infected milk. As time goes on its enforcement will be more positive and general.

The essential provisions of the new ordinance are briefly as follows:

1. Two grades of milk that may be sold in Chicago are established, the one known as "inspected" milk; the other "pasteurized." "Inspected" milk (1) is to be produced on farms inspected and approved by the health department, and shall score not less than 65 points out of a possible 100 (after January 1915, 70), on a score card which is practically a copy of that recommended by the United States government. These points relate to equipment and methods and cover the condition of the health, comfort, feeding and watering of the cows, the condition

of the milk-room, stable and utensils and methods of handling the cows and of caring of the milk from its first production to its storing and transportation.

2. Inspected shall not contain more than 100,000 bacteria per c.c. from October 1 to May 1, and not more than 150,000 from May to September.

3. The farmer or dairyman must procure a department permit subject to the condition that every case of contagious disease in connection with the dairy shall be reported at once.

4. Before June 30, 1913, the producer must file certificates showing that their cows have been inspected by a competent veterinarian and are free from tuberculosis and other infectious diseases.

5. Every milk can must be plainly marked with the serial number of the permit, and the grade of milk and each container must bear the name of the day of the week on which the milk was first enclosed in the bottle.

6. Both grades of milk—inspected and pasteurized—must be kept at a temperature not higher than 60° F. from the time of its production to the time it reaches the consumer. After June 1, 1914, the temperature must be at least as low as 55°.

Milk that meets all of these requirements is allowed to enter the city and be sold without any formality. Milk produced in conformity with standards slightly lower than these, from dairies scoring at least 55 points, and not containing more than 750,000 bacteria per c.c. from October to May, and 1,000,000 from May to October must be pasteurized and may be sold as such, plainly marked as to grade and dated with the name of the day of the week the milk was pasteurized. Pasteurization must be efficient and under the provisions of the ordinance the health department must inspect the pasteurizer and the plant and surroundings. The pasteurizing equipment must be such that 99 per cent. of all bacteria and pathogenic bacteria are killed in the milk treated therein at the temperature specifically provided for in the ordinance. A further section of the ordinance provides that pasteurized milk shall not contain more than 50,000 bacteria per c.c. from October to May, and not more than 1,000,000 from May to October.

Other sections of the ordinance relate to technical details, the requirements for milk, buttermilk, penalty for violation of the ordinance, etc.

I have endeavored to put before you as concisely as possible the main requirements of the new law. It will be seen, and I desire to especially emphasize this point, that the purport of the act is to encourage in every manner possible the production and sale of clean and wholesome milk. The pasteurization feature of the ordinance is secondary. Chicago says to the farmer, "Clean up your farm and milkhouse. Keep your cows in a healthy condition, employ clean and decent methods in milking, keep your utensils sanitary, employ no unhealthy people about your place, have no typhoid or other 'carrier' on the premises, keep your milk cool and ship it to our city cool; we will receive it willingly, and you will have nothing to fear." To the dealer we say, "Maintain decent surroundings, utensils and containers. Buy your supply from a producer whom you

know keeps healthy cows and exercises decency in the production and handling of milk and keep your milk cool."

I am aware that the ideal situation for Chicago would be an exclusive wholesome raw milk-supply. Pasteurization is only an alternative, but under conditions existing here it is absolutely necessary. This city receives its milk-supply from more than 12,000 farms located in four states. The municipal authorities have no legal jurisdiction outside the limits of the city. Inspectors of the health department, however, visit the surrounding country and check up conditions on the farms and do much towards educating the producer in sanitary regulations. The only legal club the city has is that it can refuse to receive milk that does not come up to certain standards which it has established by act of the Council.

Please note also in considering the ordinance that it does not allow even the pasteurization and sale of milk produced on farms that score below 55 points, or which has a bacterial content of more than from 750,000 to 1,000,000 per c.c. Milk below that grade can be sold under no circumstances, pasteurized or not, in Chicago.

In closing, I want to reiterate what I said in my opening remarks, that the new milk ordinance, while not ideal, and it never can be so long as certain legislation which I have referred to remains on the statute books of Illinois, yet, I believe, will be the means of providing our city with an adequately safe milk-supply.

Chicago's crusade for wholesome milk should go on. An act requiring the tuberculin testing of all cows within the state should be enacted, and the prohibition of the dumping of tuberculous cows into our commonwealth from neighboring states must be enforced. The Chicago Medical Society and the Stock Yards Branch are potent forces in molding public opinion, and well-directed efforts along this line will result in much good.

THE SLUDER METHOD OF TONSILLECTOMY *

ARTHUR M. CORWIN, M.D.
CHICAGO

I wish briefly to speak of the modern, epoch-making operation, devised by Dr. Sluder, of St. Louis, for the removal of tonsils. I am convinced, after an extended experience with it in all sorts of cases and all sorts of tonsils, that this method is the best there is for the vast majority, if not all cases, and, therefore, destined to replace to a large extent all other methods within the next few years. I therefore desire to commend this admirable technic most heartily—that those now unfamiliar with it may be won over to its employment. Not only the method, but the man responsible for it, Dr. Sluder, is deserving of warm expression of appreciation for what he has given us.

* Read before the Chicago Medical Society, Nov. 6, 1912.

Given, then, the distinct indications for tonsil removal (which are not under discussion to-night), with the further premise that we are not advocates of wholesale, indiscriminate tonsil surgery in the absence of such indications, we shall rest on the postulate that if they are to be cut out at all, it should be done thoroughly by tonsillectomy — not tonsillotomy. I desire to say, furthermore, that tonsillectomy is not an operation that, so far as the patient is concerned, is a trivial matter, which can properly be done in the office or dispensary, or college clinic, and the patient sent home. For, though I am aware that such is the practice of some operators (and we have all been guilty), and though many patients do go home direct from operation and experience little or no hemorrhage or other serious complications, it is equally true that severe hemorrhages occur unexpectedly as a delayed or secondary matter within the first twenty-four or forty-eight hours. It is better, therefore, to give the patient the benefit of the doubt and subject him to the added slight expense of a hospital bed rather than lay him open to unreasonable danger and anxiety, and lay the surgeon himself open to resulting criticisms. But if other arguments were lacking, the operator's freedom from anxiety and loss of sleep is argument enough for hospital treatment of these cases.

Very well — now that we have the confidence of the patient — how shall we take out these offending organs? Remove them in the quickest, easiest, safest and surest way possible. And I am here to say, perhaps somewhat dogmatically, that the Sluder method fills this bill of particulars, performed under a general anesthetic; though it can be done, not without considerable momentary pain, under local anesthesia.

Dr. Greenfield Sluder, of St. Louis, whose work is widely and favorably known among laryngologists, first described the procedure and his instrument at the St. Louis meeting of the American Medical Association, June 9, 1910. The paper was published in the *Jour. A. M. A.*, March 25, 1911. The instrument which he described is an evolution of some six years' experiment and study. It has a stout handle attached at a convenient angle to a strong shaft, long enough to permit free manipulation in the mouth with the fingers of the other hand, and not too long to impair its leverage. At its distal end is a fenestra, oval transversely, across which moves a guillotine blade operated by the thumb of the holding hand. The fenestrae are of three sizes, a large, a medium and a small, which are interchangeable. The large and medium are most applicable. The blade at first made sharp was dulled by advice of Dr. Sluder, as better adapted to dissect its way along the line of least resistance between the capsule and the adjacent muscles, and calculated to give less hemorrhage than a sharp one, its edge acting essentially as a fine snare acts. The guillotine is a modification of the Mackenzie tonsillotome, which has been in use for a generation or more and takes its origin from much older fenestrated guillotines, dating back as far as 1783, when Dr. Benjamin Bell published in England his description of his uvulatome. Dr. Physick, of Philadelphia in 1827 devised the instrument of which the Mackenzie tonsil guillotine is a modification. Dr.

Fahnestock, also of Pennsylvania, in 1832, gave us the ring knife guillotine. This idea, as also pointed out by Dr. Sluder, is a very old one. To originality in this, he lays no claim. But he does lay just claim to an entirely new method of its application. His instrument is much stronger and better adapted for the work than its forebears. Neither does he claim priority in the performance of tonsil enucleation with its capsule. This has been in vogue now for many years. Soon after the appearance of Sluder's presentation a few good men were quick to take it up and try it. Among the pioneers in this direction should be mentioned Dr. Wm. L. Ballenger, of this city, who was the first man in Chicago, I believe, to use this method. Following on his heels were Dr. Beck and the writer. Later Drs. Friedberg, Bergeron and others have employed it. These gentlemen can best speak for themselves.

The method of employing the Sluder guillotine differs radically from former procedures. Instead of applying its proximal surface to the gland with shaft parallel and near to the buccal surface on the same side, he enters the shaft obliquely across the mouth cavity from the opposite side, applying the distal surface of the terminal ring below and behind the tonsil, and with a scooping motion displacing the gland and the surrounding tissues upward and forward toward the fixed point of the alveolar eminence of the lower jaw. This action alone often suffices in circumscribed firm tonsils to push them through the ring and the blade of the guillotine does the rest, completely enucleating the gland together with its capsule. But in most cases the last vestige of the tonsil is crowded through the fenestra and the anterior pillar is felt as a flat smooth band across the front of the aperture. The gland may be seen and felt protruding from the opposite side if the handle of the instrument is moved to allow inspection. By forcing home the guillotine knife the removal is completed. The slight aid of the palpating finger is needed to detach the gland in exceptional, fibrous, adult cases. There is no need of preliminary dissection even in the most buried tonsils; no need of tongue-depressor or other instruments to accomplish removal; and though a headlight or other efficient light is a part of the ordinary armamentarium, tonsillectomy by this method may be done with precision without a light, solely by the sense of touch, as we have demonstrated several times when our electric headlight gave out at a critical moment.

The whole operation can be done within a few seconds of time, and the patient with hemorrhage stopped, up and away to his bed in the hospital within four or five minutes from the beginning of anesthesia when oxygen and gas is used. There you have "Sluderization" which differs radically from all previous methods of operating. All other older procedures practically aimed at *pulling* the gland from its bed, dividing its surrounding attachments with knives, scissors or more or less blunt dissectors and completing the operation with the snare or otherwise. The Sluder method on the contrary consists in lifting the tonsil upward and forward and *pushing* it through the ring by aid of the apposed mandible, and the pressure of the surgeon's finger—the latter is important, and a definite part of this new procedure. All instruments, therefore, involv-

ing a fenestra employed in this way, whether finally severing the gland with sharp or dull guillotine pushed or pulled, or with the snare, do the Sluder operation, irrespective of the men's names that may be attached to this or that instrument. And none I think are quicker to sound the praises of Sluder, himself, than those who have made such modifications in instrument and accessory technic and who have employed this method of tonsil enucleation.

A word as to the modified Sluder idea, as it has been expressed in steel. All these instruments have good features, but none of them changes the principle of the operation as first described by its author. Dr. Ballenger has added a power handle of great value, most admirably executed by the instrument makers V. Mueller & Co. This is, I think, the best combination on the market. Dr. Sauer, of St. Louis, turned down the thumb-piece, dulled the guillotine blade and used a thumb screw to drive it home. It is a powerful instrument. Later Dr. Ballenger suggested two blades, one dull, to primarily dissect and the second sharp, to finally sever the attachments. It has added cumbersomeness without improving on the advantages of the original. Dr. Beck added to a Pierce-Mueller snare a strengthened Vedder ringed tip, grooved on its inner surface for carrying a snare and effects good "Sluderization" with this instrument. It however loses in convenience and power of leverage and requires the nuisance of adjusting snares with their occasional breaking, etc., calculated to delay, and to tax the patience of the operator, and prolong the anesthetic and manipulation of the patient.

All of these modifications contemplate lessened hemorrhage and fulfil this aim to some degree. Sluder has added to the original model what he terms a "Dog," by the leverage of which, immense power can be employed in thrusting home the blade. Of these instruments, take your choice or add your own improvement, all perform "Sluderization." The hemorrhage is no greater in "Sluderization" than by other methods of dissection, without the aid of adrenalin. It comes immediately (and so seems greater), when the tissues are finally severed. It may be controlled by the usual surgical means. To this end even the writer has rushed into the field with a tonsil hemostat. It has been used practically as a routine measure by me in all cases during the past eighteen months. It is of great value, not only to control secondary, or continued hemorrhage, but when immediately applied, after the removal of the first tonsil, maintains a practically bloodless pharynx during the exsection of the second tonsil and greatly shortens the use of anesthesia. The application of another hemostat to the site of this second, has in our experience very much reduced the total amount of bleeding.

The virtue of the Sluder operation is to be based on the exhibition of the removed glands, the clinical demonstration, and the economic benefit to the patient. The glands we have here on exhibition. The reports from over five hundred tonsils enucleated by this method have tallied with the best work the other methods give. And as to clinical demonstration, I shall be glad to show any of you who may be interested, who will come to the West Side Hospital, where I operate every Saturday morn-

ing, beginning at about 8:30, handling nothing but tonsil and adenoid cases, employing oxygen and gas anesthesia and the Sluder idea. And, so far, I have not had cause to resort to other means. I am certain that as this idea takes hold of those who wish to do tonsil surgery (and there is plenty for all of us) it will largely relegate other methods to the high shelf and greatly decrease the variety and number of instruments which shall be marketed for tonsil work by the instrument makers.

In conclusion allow me to say that this method will probably be criticised by some of you who are here, from various motives. Possibly you will attack it because you are doing good work with knife, scissors and snare, or otherwise, and think that well enough should be let alone. I am, however, going to prophesy that in the discussion to follow he will decry this operation most who knows little or nothing about it from personal experience. I say, gentlemen, try it first and criticise afterwards on a sound basis of objection if you can find any.

15 East Washington Street.

DISCUSSION

Dr. O. T. Freer: The Sluder operation has an advantage over tonsillotomy with the ordinary tonsillotome that it removes the usual, non-adherent hypertrophied tonsil completely. It is not possible as Sluder operators admit, to be sure of excising with it imbedded tonsils which have acquired fibrous adhesion with their surroundings as the result of chronic peritonsillitis, peritonsillar abscesses, or previous operations. The method therefore has the lack of adaptability common to all mechanisms intended by a mechanical act to supplant the painstaking and intelligent work of the hand and knife, which can fit themselves to all anatomical conditions. Those advocating such mechanisms always have in mind a typical tonsil for which the implement is constructed, and ignore the many changes produced in the tonsil and its surroundings by pathologic conditions which make the operation of tonsillectomy one requiring great versatility.

The demands for a correct tonsillectomy are: To leave no part of the tonsil behind to cause future attacks of tonsillitis or peritonsillar abscess; to cause the least possible reaction; to avoid sepsis and above all injury to the muscles of the palate and to avoid the sacrifice of the plica triangularis. The plica triangularis is the fold of mucous membrane which continues the anterior pillar inward from the inner edge of the palato-glossus muscles and covers the anterior and inferior face of the tonsil. This fold should be saved in order that it may line the tonsillar fossa and hinders their motions. After removal of the tonsil a mere slit or the palato-glossus and palato-pharyngeus muscles upon each other. Where too much of the mucous membrane in front of the tonsil has been sacrificed the result is a firm retracting scar which firmly unites these muscles, obliterates the tonsillar fossa, left empty by the removed tonsil, and so preserve the free motions of oval recess should be seen where the tonsil was excised, not a broad wound such as Sluder demands in his article. All the above demands are satisfied by the operation of knife excision of the tonsil which I described in the *Jour. A. M. A.*, 1909, p. 547-552. On the other hand a consideration of the Sluder instrument and method will show how ill adapted they are to satisfy these requirements and how clumsily at best they supplant the exact work of a clean dissection. The Sluder operation relies upon finding a tonsil that moves loosely enough in its bed to be expressed through the ring of the instrument like a comedo. The bulging tonsil is then ploughed or torn from its neighborhood by a dull chisel blade. While the Sluder instrument may take away a typical tonsil completely, it is physically impossible that it should remove the little cicatricial tonsils, which extend up into the soft palate, are hidden from view and are so often the cause of peritonsillar abscess. Such tonsils even a sharp knife severs with difficulty from their cicatricial bed.

Reaction after any operation is chiefly in proportion to the amount of violence inflicted on the tissues left behind. The Sluder operation necessarily involves forcible bruising of the muscular bed of the tonsil against the lower jaw and evulsing the tonsil with the crushing force of a dull blade. Common surgical experience shows that bruising and tearing lead to more reaction than clean cutting.

As to sacrifice of mucous membrane, Sluder himself says in his article: "Further examination of the specimen reveals that a little of the free edge of the anterior pillar, including a few fibers of the palato-glossus muscle, is attached to it (the tonsil). I always remove this bit of the anterior pillar because it leaves a more open wound and a more open fossa when healed." There is no reason for such an open wound, as experience has shown me, and such a wound is sure to change into the retracting scar so characteristic of the loss of integument upon the palate.

In regard to sepsis. Many tonsils are chronically septic. To squash down on such with a powerful ring will necessarily force pus germs into the lymph channels, especially in cases where a concealed chronic peritonsillar abscess exists, as is not uncommonly the case. I have been calling attention for some time to the danger of sepsis from forcible tonsillectomy. Three deaths from this cause came to my notice and septic fever with sloughing is not uncommon. The Sluder operation is a forcible one and as such well designed to excite sepsis in predisposed cases. Considering the great amount of blunt tonsil enucleation being done serious septic consequences are surprisingly rare, but are sure to be encountered in a large series.

I can not see how a ring, forced over a tonsil, can produce the very necessary division of the tonsil from the posterior pillar which the knife creates with such accuracy.

The necessity of general anesthesia for the Sluder operation, as acknowledged by Dr. Corwin, sufficiently displays its character as a forcibly painful one. In contradistinction to this I have often excised tonsils by my method under local anesthesia from children, from 6 years old upward.

It may be stated that my arguments are theoretical and not based on experience. In a sense I have had experience, the general surgical experience which has given me the judgement to see the weak points in a measure proposed, and to allow for the early optimism which clings to the beginning of most new surgical things and which dies away when these weak points have become common knowledge. Nor do I feel it any more my duty to try new things in which I can see objections taught me by experience, than to try to draw screws with a claw hammer, even if enthusiastically advised to do so, for I know that I should mar the wood-work less with a screw driver.

The Sluder operators all admit cases unfit for their method; I admit none that are unfit for mine, which can remove all tonsils with the least injury and does not do harm by ineffective trials.

Dr. J. C. Beck: I would like to agree with Dr. Freer that dissection is the ideal method; I did that operation until this method appeared. Dr. Freer will probably do the same thing before long. He is doing harder work than I am doing now. I have yet to see a single case of removal of the tonsil with my snare, a modified Sluder instrument, that had as much reaction as the mildest reaction following dissection. That does not mean two or three cases but hundreds of them. Clean dissection and time-consuming operations do not enter into the discussion at all.

The point I wish to make is this. Tonsil operations are done a great deal by general practitioners, and by the dissection method which they undertake, there is a great deal of destruction of the palatal muscles, which is not the case when my snare is used. I defy anyone to show microscopically a single muscle fiber on a tonsil which I remove with my snare. With the instrument cutting forward, first devised by Sluder, such a thing may occur, but not with the snare. You may leave a margin of lymphoid tissue, but you will not cut away any of the muscles fibers.

My Technic (illustrating).—I take the lower pole of the tonsil, raise it up and by pressing down, the entire mass of the tonsil is forced through the ring. By releasing the lever, you push the tonsil further out and by locking you erase the tonsil, and the smoothness of the capsule can be shown after the operation.

Speaking of hemorrhage. I do not care what method you employ, you will have some bleeding. The immediate introduction of a tampon by means of any clamp will facilitate the control of the hemorrhage. If you remove the clamp too soon it will bleed again and in some cases have to employ hemostatic forceps. There are other reasons for hemorrhage than the removal, such as the pathologic conditions for which the tonsil was removed, or the difference in vascular distribution.

So far as 98 or 100 per cent. of successes are concerned, the condition of the tonsil you have to deal with makes the percentage of success. My rule is this. If I can push the tonsil through the ring of my instrument this is the method of removal to use. If I cannot, I simply dissect the tonsil out. Gas anesthesia is not complete enough to do this operation in the majority of instances, because the muscles cannot be relaxed sufficiently. If you are going to do the operation as it should be done, place the patient completely under ether anesthesia.

Dr. P. J. H. Farrell: In using the McKenzie tonsil instrument we use both hands, which makes the operation more simple as well as more accurate. McKenzie always used two hands, pushing the lever with the thumb of the other hand, which keeps the instrument solidly against the tonsil. No matter how you use it with one hand, the instrument will pull away from the tonsil when you push the lever with the thumb of the holding hand. The Sluder instrument differs but slightly from the McKenzie, which has been used for a quarter of a century. The Sluder operation is of course an entirely different operation.

As for the anesthesia, the fatal cases occur with general anesthesia, rarely with local anesthesia. The death rate following tonsillectomy under general anesthesia has in five years jumped from practically nil to a greater mortality I believe than that for the abdominal operation to remove the appendix. I of course refer only to the work of men doing this special surgery. Is the result worth the sacrifice? I don't think so.

I have given up using general anesthesia for tonsil operations. I use one-tenth of one per cent. of cocain, ten to twenty drops injected into the tonsil and remove but one tonsil, waiting a week to remove the second tonsil. By this method the patient has no pain or inconvenience after twenty-four hours.

Dr. E. Pynchon: I have not as yet used the Sluder method because I have other methods which for many years have always filled the bill. Many of my patients in the last twenty years have been those who have had an operation previously. A tonsillotomy has been done and the lower portion of the tonsil left behind, so it is the removal of that portion of the tonsil that I have been asked to do. When you desire to make a circling cut with a straight instrument, the tendency of the instrument is not to cut deep in, and that explains why so many of these tonsillotomy cases have had to have the base of the tonsil removed after the use of the McKenzie tonsillotome.

It is not alone a matter of removing the tonsil, but there is a lot of peritonsillar tissue under the anterior pillar which it is as desirable to remove as the tonsil itself. It is quite apparent that by the Sluder method this cannot be removed.

After tonsil removal I am a strong believer in the necessity of after-treatment. There does not then occur that uniting of the anterior and posterior pillars mentioned by Dr. Freer.

As to hemorrhage. Dr. Beck said that there is no way to remove the tonsil without hemorrhage. I wish to differ with him. By the cautery dissection method I have removed about fifty tonsils during the last five or six years without the loss of a single drop of blood. I have been doing this cautery dissection for twenty years. It took me twelve or fifteen years before I began to have no hemorrhage at all. So there is a method of removing the tonsils without hemorrhage, and I would like to see any other method by which a bloodless tonsillectomy can be done.

Dr. H. M. Thomas: An excellent mechanism usually appeals to every one and the vast degree of ingenuity should be praised highly. The subject under discussion is the Sluder operation, but as an aside, I wish to plead for conservatism in regard to tonsil operations in general. That has been forcibly emphasized by McKenzie of Baltimore in a recent article on "The Massacre of the Tonsil." There is no doubt that to-day there exists such a state of affairs, in which the tonsil is massacred, and it is the result of an enthusiasm regarding its proper removal which is not at all warranted.

Dr. Corwin (closing discussion): As I prophesied, it is the man who never used the method who jumps it hardest. Dr. Freer in his talk gives the impression that in this surgical field he is a standpatter and reactionary. Let him beware the fate of Taft. Does the doctor, lawyer-like, bow the knee to precedent? Is he willing to leave well enough alone because what he thinks well enough happens to be his method, his instruments and his technic? We are surprised, and specially so when he says that the operation should be labeled "Mackenzie-Sluder" as if he would hyphenate both name and honor. This is ungenerous. He theorizes about the danger of squashing or squeezing septic material into the muscles with dire effect. But how unlikely such an occurrence, even from a speculative point of view—for the capsule is a firm, fibrous barrier, much more impenetrable than the tonsil itself. So any septic material even deep-seated, would upon being pressed from the direction of the underlying muscles be expected to escape if at all in the line of least resistance, forced through the crypts into the mouth. And, as a matter of fact, that is what does occur, frequently the buried tonsil being literally turned inside out and its contents expressed into the pharynx. Furthermore, no such accident as the one suggested by the doctor has been encountered as a result of "Sluderization." This is merely one of Freer's scare headlines with no basis in fact. Like Don Quixote, he likes windmills. In this connection, be it said that unless we mix brains and judgment with our surgical work, we had better quit. Why should one attempt, for instance, to needlessly crowd a large tonsil through the smallest fenestrum with uncalled for stress when a large fenestrum is available and takes the gland easily, entirely eliminating even the fanciful, hypothetical danger mentioned by Freer Again, judgment will tell us when operation either by Sluder guillotine or sharp knife or scissors should be postponed because of recent infection or for preliminary treatment. Dr. Freer further theorizes about the danger of tearing or cutting out muscular fibers of the palato-glossus. Sluder speaks of doing this on purpose. But it is unnecessary. It is no more apt to occur than in any operation, and I have never seen it yet in 500 tonsils Sluderized. And if you will inspect the dozens of specimens of tonsils which are being passed around here, you will see how clean all the capsules are. In fact, there is in my experience less danger of muscular injury by Sluder's method than by any other dissection.

Dr. Freer pronounces the Sluder guillotine suitable only for the man who fears or is unable to do what Freer calls the scientific method by knife dissection. My answer to this is, that not only I, but many other operators quite as familiar with knife dissection as he and capable of doing quite as good work or bad, have laid aside the older methods championed by Freer for the newer, Sluder's, because they are convinced that a skillful use of his guillotine, or some of its modifications, will deliver the goods quicker, safer and more uniformly well. We speak from an extended experience with both methods. Freer only from one.

In the evolution and progress of things, we must expect to make instruments, devise technics to-day and tie our names to them, and to-morrow see them upon the scrap heap, because of the newer and the better.

Finally, the doctor infers that I am satisfied with 98 per cent. of success, because parenthetically, I estimated that the Sluder method would satisfy indications in that percentage of cases. So far, it has been so in a hundred per cent., excluding the first few cases while I was learning how. I may never meet the hypothetical 2 per cent. in which knife dissection would be preferable. But when I do, I shall hope for judgment enough to borrow a few of Freer's knives to use.

Dr. Pynchon is one of the pioneers in tonsil dissection by cautery. Used with discretion, his method has given excellent results; but it is now upon the shelf with other old-time good things.

In conclusion, if anybody imagines that the Sluder guillotine can be properly used without the need of brains and skill, and that practice is a needless factor in attaining perfection with it, let him guess again. We say once more, come and see it done, and try it out yourself before you damn it with faint praise, or just plain damn it.

THE INFLUENCE OF SPINA BIFIDA ON PROLAPSE OF THE GENITALIA *

HENRY F. LEWIS, M.D.

Professor of Gynecology and Obstetrics in Bennett Medical College, Medical Department of Loyola University.

CHICAGO

While the great majority of cases of prolapse of the uterus and other organs of the female pelvis are caused by the traumatisms incident to labor, there are yet some wherein the history of no such traumatism can be traced. Genital prolapse is of the nature of a hernia. The intra-abdominal pressure constantly tends to force downwards and outwards the contents of the pelvis and is prevented under normal circumstances by the resistance of the pelvic floor, mainly by the strength and tonicity of the levator ani muscle. The passage through the vaginal canal of the head of the child often tears the muscle and the fasciae of the pelvic floor and sometimes weakens these structures by undue stretching. The walls of the hernial canal are thereby weakened and eventually the intra-abdominal pressure may force the contents of the abdomen and pelvis through the defect. The pelvic contents which are right in the way and therefore usually the first to start outwards are the uterus and vagina. In some instances the vaginal walls prolapse primarily and drag the uterus after them, in others the uterus comes down through the vagina and secondarily inverts the vaginal walls. In all cases there is a general downward tendency of all the pelvic organs; bladder, uterus, adnexa, rectum and intestines. When the pelvic floor is defective enough and the intra-abdominal pressure is sufficient the hernial prolapse of the uterus and vagina will occur regardless of the condition of the suspensory apparatus of the uterus, namely: the broad, the utero-sacral, the vesico-uterine and the round ligaments. In just the same manner in inguinal hernia, for instance, the intestine will be prolapsed into the inguinal canal or into the scrotum regardless of the length or shortness of the mesentery.

Prolapse may occur in women who have no visible lacerations or traumatisms of the pelvic floor, may even occur in nulliparae or in virgins, may even exist in young children or in new-born infants. In these cases there is usually congenital weakness or disease of the pelvic floor, especially of the levator ani. In many of them the ultimate cause can be proven to be in the existence of a spina bifida. In some instances the spina bifida will be apparent to inspection or to palpation, in others

* Read before the Chicago Medical Society, Oct. 9, 1912.

it may be occult, only to be demonstrated by dissection. In many a growth of hair over the sacral region is a stigma of the spina bifida beneath. For a long time the coexistence of congenital prolapse and of sacral spina bifida has been noted and has often been thought to be merely coincidental. Of late it has been proved to be causal rather than coincidental.

Dissection of the levator ani muscle in cases of sacral spina bifida in fetuses and infants shows that the direction of the muscle bundles is abnormal. They run more towards the coccyx and downward so as to make the pelvis more funnnel-shaped. The pale yellowish color of the muscle instead of the normal red, and the flabbiness of the fiber bundles show that we are dealing with a muscle which is much disordered in its innervation and consequently in its nutrition. The whole muscle is seen to be thinned and to contain much fat. Microscopically, signs of degeneration in the fibers appear, the small bundles are inordinately thin and in many places replaced by fatty tissue and by connective tissue. The stripes are not marked, the nuclei are more numerous and smaller in individual size. Such conditions in the muscle of the pelvic floor are only observed in those cases in which the fourth sacral nerve, the motor nerve for the levator ani, falls within the region of the spina bifida. The pressure of the fluid within the spina bifida, the traumatism from the exposed situation, or the defective development of the nerve because of the defect in the spinal covering has caused a partial paralysis of the nerve and consequent degeneration in the muscle supplied by it. Thus we have a levator ani muscle not injured by labor but one congenitally defective. Therefore the muscle does not properly perform its chief function of acting as the pelvic diaphragm and of holding in their proper places the contents of the pelvis. In other words there is a weakness of one of the muscular supports of a natural canal opening out of the abdomen and therefore a tendency to a hernia whenever the intra-abdominal pressure becomes sufficient to force the abdominal or pelvic contents through the poorly defended portal. The condition is similar to that in inguinal, femoral or other hernia.

Sagittal frozen sections of new-born infants show that normally the uterus and bladder are high in the true pelvis, even extending well into the abdomen itself above the level of the symphysis pubis. In the infant with spina bifida the uterus is sunken far down to the bottom of the pelvis, the bladder lies entirely within the true pelvis while the vaginal walls are inverted about the prolapsed cervix. In these cases the perineum is somewhat bag-shaped and sagged forwards, the anus lies deeply in a furrow and is usually gaping. The picture is so characteristic that often the diagnosis of occult spina bifida can be made from the appearances in the perineum alone. Similar conditions are observed in male infants with spina bifida. The bladder lies in the pelvis behind the symphysis instead of considerably within the abdomen as usual. The pocket of peritoneum between the bladder and rectum, as well as the prostate, lies abnormally low. In all these cases, male and female, no abnormalities may be found in the connective tissue supporting apparatus of the pelvic organs.

Frequently no symptoms will appear to indicate prolapse during the early life of women affected with congenital prolapse and only with the appearance of pregnancy or even after labor will the condition be recognized. As the uterus becomes enlarged in the early months of pregnancy it may manifest its prolapsed condition by causing undue disturbances of the bladder or rectum.

It may press upon the vulva and perineum or even appear protruding more or less from the vulvar orifice. Proper treatment by tampons, pessaries or otherwise will usually hold the uterus, with the other pelvic organs, in place until the uterus becomes large enough to lie well up in the abdomen and become supported by the bones around the superior strait. After the labor, even although traumatism to the perineum has been trivial, the prolapse may recur. This is especially likely after a month or two, when the woman goes about her duties and increases the intra-abdominal pressure. Indeed the pelvic floor is already so much relaxed by the muscular weakness due to the spina bifida that serious lacerations of the perineum and pelvic floor during labor are less likely to occur than in normal cases.

Nulliparae so affected with potential congenital prolapse may experience no symptoms calling attention thereto until later life, especially after the menopause. The increase of fat in the body, especially the fat within the abdomen, increases the intra-abdominal pressure while the advance of age weakens the supporting powers of the pelvic floor and prolapse becomes sufficiently established to be noticed.

In these cases of congenital prolapse, either in women who have borne a child, or in nulliparae, plastic operative measures upon the pelvic floor may fall far short of success. The levator ani and the fasciae, made taut by the operation, easily stretch again, because of their weakened condition, under the influence of intra-abdominal pressure. Many a failure after operations performed *secundum artem* is caused by the impossible handicaps inherent in the condition of the tissues operated upon. Therefore the cautious gynecologist will not promise too much from operations performed for the relief of congenital prolapse.

THE PATHOGENESIS OF THE GLANDULAR OR SECONDARY FORM OF INFANTILE TUBERCULOSIS

CLINICAL IMPORTANCE, ETIOLOGIC FACTORS, PROPHYLACTIC MEASURES, ITS FAVORABLE PROGNOSIS AND RATIONAL TREATMENT *

JOHN RITTER, M.D.

CHICAGO

As our knowledge of the growth and development of the various tuberculous processes in the human organism is broadening, it becomes more apparent, that a classification in keeping with these advancements

*Read before the Sangamon County Medical Society, at Springfield, Ill., Oct. 28, 1912.

is necessary to a more correct understanding of these different mutations; that a clearer conception of these tuberculous changes, from its very inception, or the very beginning of infection of the virgin organism, to its full development or final stage, as we see it in cases of advanced phthisis, may be had.

Most modern clinicians and teachers from close study, observation and investigation hold to the theory that all primary tuberculous infection, with but few exceptions, is infantile, occasionally prenatal, chiefly postnatal, and that this infection, if extra-uterine occurs in very early life, usually either in the first months of the child's existence or within the fifth or possibly the sixth year; that the primary foci of infection in the organism are usually single, generally aerogenous,[1] found within the lung itself near a small bronchus, but mainly subplural; that after a period of incubation of shorter or longer duration the regional lymphnodes, if within the parenchyma of the lung, the intrapulmonary if outside of the lung, if subplural (and this is most frequent), the bronchopulmonary, epibronchial, tracheobronchial and parabronchial, extending ultimately up to the cervical glands, are secondarily involved, and that all subsequent forms of tuberculosis, like pulmonary, osteal, meningeal and others, are only a tertiary manifestation of the disease. The study of this primary glandular or secondary tuberculous manifestation of the disease as it is usually seen in children, shall be our chief theme. For a clearer conception of this form of tuberculosis as is usual in children, it will be necessary that we consider first how, in which way and at which period of the infant's existence this infection takes place. The theory of heredity as such or the direct transmission of the disease from parents to the offspring is no longer tenable. So-called hereditary phthisis, as we so often see it in certain families, is only the evidence or proof of a massive or heavy infection in early infancy, which infection in later or adult life is again transferred as a massive infection to the progeny. As change of environments and habits will completely obviate this family infection, the directly opposite teaching, the non-heredity of tuberculosis, is now accepted.

At present two views are entertained as to how this infection may take place. One theory holds that the child is infected with the tubercle bacillus before birth,[2] intra-uterine, the other (and this has the greater number of supporters) is that the child is born entirely free from all tuberculous infection, is non-tuberculous, but is infected extra-uterine or postnatal, invariably from a tuberculous adult. That this tuberculous infection is almost entirely brought about after birth, is strengthened by the fact that in post-mortem examinations of the newly born very seldom are tuberculous lesions demonstrable. In exceptional cases it has been shown, by means of the antiformin method, that bacilli are present in the placenta of the tuberculous mother, and we can very easily conceive the entrance of bacilli, through a diseased placenta, into the circulating fluid

1. Ghon, Anton: Der Primäre Lungenherd bei der Tuberculose der Kinder, Berlin, 1912.
2. v. Baumgarten: Tübingen, International Medical Congress, Budapest, 1909.

of the fetus, and being deposited infect the yet unborn child, but this is rather the exception than the rule.

We are now in a position to prove positively that in the greater majority of children born from tuberculous parents, or from children reared in tuberculous homes, that the infection does not occur intra-uterine, but postnatal.[3] By means of the cutaneous tuberculin test we can now show definitely at which age this infection has taken place. Newly-born babies do not react at all to the test; the reaction is seldom before the sixth month, or perhaps not until the first year; by the sixth year nearly 50 per cent. of all children react, and nearly 95 per cent. at the age of puberty. These cutaneous tuberculin findings have been corroborated by post-mortem examinations,[4] showing that the infection is seldom in the first year of life; that between the ages of 1 to 5 years about 20 per cent. are tuberculously infected, and that at puberty in about 90 per cent. macroscopic and microscopic tuberculous lesions are demonstrable; consequently, from these observations we are justified in assuming that the infant, with few exceptions, is born free from all tubercular virus, is infected in the very early months or years of its existence from without; that this early infection is usually slow, gradual and oft repeated with but few bacilli at any given time; hence infantile tuberculosis is primarily a question of quantity; how many virulent bacilli and in what intervals of time have the bacilli entered the virgin organism.

More direct evidence, if wanting, of the non-infection of infants before birth, not intra-uterine but extra-uterine, is the fact that twins born of a tuberculous mother are not tuberculously infected; that if one is immediately after birth removed from its mother, placed at once in a non-tuberculous home or with a family free from tuberculosis, under changed environments and more favorable conditions, it will escape entirely every infection; whereas the other child remaining with the actively tuberculous mother will be quickly infected and succumb to the disease in very early infancy. The possibility of prenatal infection, infection *in utero*, has in recent years been considerably strengthened from various reports of having demonstrated the presence of tubercle bacilli in the placenta. That a tuberculously diseased placenta may not be a barrier to the entrance of tubercular virus into the fetal circulation must now be accepted; even a non-tuberculous intact placenta in exceptional cases will permit bacilli to pass its walls and enter the embryonal circulation. That this may take place not only in the case of the active advanced tuberculous mother, but at any stage of the disease can now be assumed, as the presence of tubercle bacilli in the circulating fluid can now be positively demonstrated throughout all the stages of the malady. This has been verified by accurate laboratory investigations and by competent diagnosticians.

From all this we must conclude that the infant is occasionally tuberculously infected intra-uterine, but as a rule is born free from all tuber-

3. v. Leube: Ueber die Bekämpfung der Tuberculose im Kindesalter, München. med. Wchnschr., 1912, No. 31.
4. Naegeli: Wien.

culous infection, and if infected it is usually slow and gradual, from a tuberculous environment, in the main in the first years of its life. If this infection is small in amount, small in the number of bacilli taken into the organism at any given time and only occasionally repeated, it will bring about in the so-infected organism a gradual immunity, a cure or arrest of the tuberculous process, and that a complete healing of the tuberculous lesion will give a certain amount of immunity against a future tubercular phthisis in adult life. If, on the other hand, this infection is in large amounts, many bacilli entering the body at a given time, virulent and oft repeated, which so frequently occurs in the homes of the careless tuberculous, then the infection is massive and the child will succumb early to a generalized tuberculous infection, because in these tender years it has not yet developed sufficient resisting power, has not yet acquired a protective immunity; hence immunity as we now understand it in its relation to tuberculosis, is a protection from a moderate reinfection of an organism already primarily but mildly infected, the protection being assured to an infected organism against future moderate reinfection.

This fact is frequently observed in children with healed cervical lymph-nodes, in whom, after healing, we often note a degree of protection against future tuberculous processes. It follows from the foregoing observations that this so acquired immunity in children is only a relative protection, not absolute, for, if the tuberculously infected person is occasionally reinfected with a small amount of bacilli, the relative immunity against a similar small amount of virus is maintained, but if infected with a large amount of virulent bacilli, a so-called massive infection, a very active tuberculous process is established, terminating usually in early death.

Infants and young children as a rule are almost invariably infected from adults and not from other children; consequently, prophylactic measures against this tuberculous infection must be very energetic and thorough, and should be instituted at the very earliest period of child life, so as to protect it against this adult or family infection. Hence, it is very evident that this fight against tuberculosis, in the very early life of its victims, demands our most serious attention. We must guard well against infection in the home of the tuberculous, protect the child against infection from its father or from its mother, or perhaps from a possible infection from a tuberculous family in which the child is being reared. We can truthfully make a broad assertion when we say that annually more infants and children are tuberculously infected from the father than from the mother, and this, notwithstanding the fact that the mother, at the birth of the child, may have been actively tuberculous. The tubercular mother, if apprised of the infectious nature of her disease, will make every sacrifice of personal comfort and convenience to avoid the infection of her child to protect it against this dreaded and insidious disease, but, usually, not so the selfish, careless and indifferent father. Hawking and spitting about the house, over carpets, floors, walls and bedding, the prattling child about the premises on all fours is in constant danger of infection and reinfection, and if this danger to the future health of his offspring is

pointed out, if admonished by the doctor, the father will in most instances not heed it because it does not suit his comfort and convenience.

A child born of a tuberculous mother should not be put to the breast; if she is nursing her child, it must be weaned at once. Tuberculous parents, both father and mother, should not kiss their children nor should they be permitted to kiss other children. The tuberculous should be isolated if possible; each should occupy a room and bed singly. All the furnishings should be very plain, the floors not carpeted; especially should the room be well aired, well ventilated, facing toward the South for sunshine and light. The patient must not have free access to all parts of the house, but be confined to this one room. If such rules are very strictly and carefully observed, the infant can be in a measure protected from a possible infection. A still better plan, if the financial condition permits, is the removal of the infecting individual to a nearby, well-equipped sanitarium. As tuberculosis is primarily an infectious and not a contagious disease, every avenue of infection should be carefully safeguarded in order to avoid infantile dissemination, always bearing in mind that, do what we may, under the most hygienic and the best sanitary conditions in a tuberculous family, we cannot always inhibit at least a mild infection.

Almost every case of infantile tuberculosis is directly traceable to an adult who is or was tuberculous, and conversely every case of adult tuberculosis is again directly traceable to an infection in early infancy, and in a great many instances we have no difficulty in tracing the infection and to follow it throughout the many years of latency, that is, from early infancy up to mature old age. An old man or woman afflicted with a persistent cough lasting for years, especially troublesome during the winter months, usually spoken of by the other members of the household as a hard cold or a winter cough, a bronchitic or asthmatic cough, is very frequently found on closer examination to be a case of slow, chronic, fibroid pulmonary tuberculosis, and from a person so affected the infants and small children about the house are generally infected. A few illustrations will make this point clear.

CASE A.—A. V., aged 23 years, American born; proved on examination to be active moderately advanced tuberculous. Family history gave that the father died from some lung disease about 17 years ago, when this patient was just 6 years of age. On the left side of the neck near the angle of the jaw is a prominent scar typical of a post tuberculous adenitis, the ineffaceable impress of a once suppurating and discharging gland. This occurred when he was three years of age. Since childhood he had always enjoyed very good health until last June when he noticed that he began to tire easily, since which time he has developed a very progressive pulmonary lesion. Undoubtedly, the source of infection was from the father years ago, and before this patient was three years old.

CASE B.—W. G., aged 52 years; usual weight 281 pounds, present weight 263¾. American born; occupation, mailer. He has always enjoyed very good health. No cough, no pneumonia, no pleurisy, no typhoid. In May last suddenly and without any premonitory signs a pulmonary hemorrhage developed lasting, with varying intensity, about three days. Physical examination after the hemorrhage had subsided gave unmistakable signs of right apex involvement. Bacilli in sputum. Family history: Mother died of paralysis, one brother died of tuberculosis 12 years ago, one sister living and well, father died at the age of 50, when patient was a lad not quite 12 years old, supposedly from asthma. As we know

that asthma *per se* will not cause death we can only infer that the father was chronic tuberculous and infected him in early life.

CASE C.—J. M. American born, aged 42 years; occupation police officer; usual weight 215, present weight 180; was always in good health, moderate smoker and drinker; an attack of rheumatism lasting about a month at the age of 12. For the last two winters was troubled more or less with a cough from which he was entirely free during the summer and fall months. Was repeatedly examined by different physicians but owing to his good physique, absence of fever and good appetite was informed that he was suffering simply from an attack of bronchitis. In February last, suddenly while seated in his home he had a hemorrhage, not very profuse at first, but the following day he had a most severe bleeding spell lasting with more or less severity for four days. A careful chest examination after the subsidence of the hemorrhage showed a right sided pulmonary lesion, in second interspace, para-sternal line, with distinctly audible rales. Sputum revealed bacilli. I elicited the following family history. Mother well along in years but hale and hearty. Father died at the age of 39 from pulmonary tuberculosis when the patient was a lad but 5 years of age. As the mother informs me that the patient's father and he were, during the last years of the father's life, inseparable, we must conclude that he was infected by his father before the age of 5, or more than 37 years ago. Innumerable such histories could be mentioned but these will suffice.

As tuberculosis, as seen in infants and young children, is usually a chronic lymphadenitis and lymphangitis tuberculosa, a secondary tuberculous manifestation, treatment, if very early instituted, will give in the majority of cases an immunity sufficient to protect the youth or young adult from all future tertiary complications. For the successful treatment of secondary or glandular tuberculosis, as it is usually found in infants and young children, three good methods are now advocated, and only a combination of all three, from personal observation and experience, will, as a rule, lead to a successful termination.

First, Diet and Hygiene. This is of paramount importance. No special food is necessary; any good wholesome diet, mixed preferred, is suitable. Eggs, milk, meat, vegetables, fruit, bread and butter should be the principle foodstuffs. Do not stuff your patients; do not give raw eggs in excessive amounts; do not insist on your patient taking large doses of fats and oils, and above all do not prescribe for your little patients nauseating, sickening and loathsome cod-liver oil, which by Nature was never intended for the human stomach. A good quality of olive oil may be suggested to be given in from one-half to one teaspoonful doses; this will not cause gaseous eructations and is well borne by the child's stomach. Give all foods with regularity, allowing the stomach a certain amount of rest between meals. This is best accomplished by insisting on the patient's abstaining from all food and drink between meals; at bedtime, if desired, a cup of milk with crackers may be allowed.

As to hygiene, good wholesome air, outdoor exercise, plenty of sunshine, sufficient rest, well-ventilated sleeping apartments and frequent baths, either warm or cold, as the individual child may prefer.

Second, Medication. Much medicine is not indicated in the treatment of infantile or glandular tuberculosis, still very good results, mainly as accessory means, may be secured by its use in the general fight against this disease. For many years, as a tonic or impressive remedy, I have

used and recommended the old and time-honored syrup of iodid of iron, the syrup of the ferrus iodid of the U. S. P., and I have accorded to it the first place among the vast array of recommended medicaments. I prescribe equal parts of the syrup of iodid of iron and glycerin, and direct that the child be given of this mixture a half teaspoonful with each meal, or three times a day. This gives about 15 minims of syrup of ferrus iodid to a dose. If desired, a minute quantity of arsenic in the form of the liquor arsenici chloridi, U. S. P., may be added, say a drop or two to each dose. This medication should be occasionally varied by some other palatable iron preparation. The liquor ferri albuminatae of the National Formulary makes a very desirable one; a few drops of an arsenical solution may also be added to this if desired.

Third, Specific Tuberculin Treatment. Whatever our views about the use of tuberculin may be; whether it favors mainly the production of antibodies in the tuberculous organism, or if its use is productive chiefly of fibroid tissue changes about the tuberculous foci or gland, in time forming a barrier to the future egress of the bacilli, encapsulating the gland with a strong impermeable layer, inhibiting any further exacerbation of any tuberculous lesion—whatever may be our opinion, it stands out bold and clear that tuberculin as it is applied to-day in the treatment of this disease, is undoubtedly without a parallel. To my mind the chief value of tuberculin in the treatment of infantile glandular or secondary tuberculosis is principally dependent on the fact of its bringing about fibroid connective-tissue changes around a tuberculous gland, the production of immune bodies being of secondary or minor importance. Having satisfied yourself that the case is one of glandular tuberculosis, begin the subdermal use of tuberculin in very minute quantities, about 1/20 to 1/10 of a millimilligram, equal to about 1/600,000 to 1/1,200,000 of a grain, repeating it about once, or at the beginning, twice each week, and with each succeeding dose gradually increase the amount of tuberculin. It will not be necessary to progressively increase the dose until very large doses are given. Usually when about fifteen or twenty subcutaneous injections have been given and the patient is doing well, I do not increase the dose, but remain at that dosage for some length of time, denoting this as the "tonic dose."

In small children of a very sensitive or nervous nature, the use of the hypodermic needle is very much dreaded, and the use of tuberculin by this method in these cases is not always applicable nor satisfactory. In such cases I institute the tuberculin medication by means of a dermatic way, using a millimilligram solution, directing the attendant or nurse to rub into the skin of the child in the axillary space, usually at bedtime, a few drops of this solution, and continue rubbing until all has been absorbed. Recently I have found a more desirable and a more efficacious remedy in the use of an ointment prepared from tuberculin and lanolin. I direct that an ointment be prepared to represent in tuberculin value an amount equal to the tuberculin in the dilutions which I am using, so that 1 gram contains or represents 1 millimilligram. By means of this oint-

ment, rubbing a small quantity well into the axillary space, quicker results can be secured. Lanolin possessing great penetrating powers, if well applied, is readily absorbed, carrying into the tissue any medicament that may be incorporated.

From my viewpoint, the use of tuberculin as a therapeutic agent in the treatment of some forms of the more active stages of glandular or secondary tuberculosis in children, as well as in adults suffering from this glandular form, is one of the most wonderful achievements in modern medicine; it is nigh unto a specific. When by its proper and faithful use you see suppurating glands, glands which are just at the point of breaking down, glands swollen, painful and tender, discharging sinuses, from the very beginning of the tuberculin medication to undergo favorable retrograde changes, the discharge from the sinuses gradually lessening, and finally entirely ceasing, leaving a healed-over typical scar, or tender, painful, inflamed and angry-looking glands just about to break down, in a very short time, change for the better, and if, after maintaining the tuberculin impression for several months, where some time ago a tender enlarged gland was observed, we can now palpate a small, hard, firm and well-healed body; suppurating glands healed and only healthy scar tissue now left to remind you of the former condition, your faith in the use of tuberculin will be well sustained.

When a positive diagnosis of infantile glandular or secondary tuberculous infection has been made, the treatment should begin at once with energy, vigor and perseverance until we are assured that the disease is positively arrested and the patient cured. We must make relentless warfare on this tuberculous infection in early child life, when recognized, immediately on its inception, because at this period we may anticipate a much more favorable prognosis. Owing to the extreme chronicity of this disease, we are so frequently given to indifference and seldom apply ourselves assiduously to the treatment of the secondary stage of this tuberculous infection, until, in adult life, tertiary symptoms present themselves mainly in the form of pulmonary phthisis. We then are suddenly awakened to a painful and helpless realization of our having procrastinated, that the time for the arrest and cure in the majority of cases has perhaps many years passed by; that now so much irreparable damage has been done to the susceptible organism that it is far beyond all hope of arrest. What medical practitioner would think of waiting to treat a case of syphilis until tertiary lesions are manifest? That is just what we are doing every day with the tuberculous infections in young life.

The dictum of v. Behring, that tuberculosis in adult life is only the echo of the song which was first sang at the cradle, or in plain English, that phthisis in the adult is only the tertiary form of the secondary tuberculous infection which was mainfest in early child life, will always be true unless we can stamp out the early glandular infantile tuberculosis; this alone will give positive immunity against adult phthisis. Let us be true to our calling as physicians, true to our obligations to the public, to our clientele, to our families and to all who seek our advice

in matters relating to their health and their welfare; impress on the parents, the guardians, the teachers and others the paramount importance of early recognition and continuous, uninterrupted treatment in all children afflicted with this insidious plague. Only by eradicating the disease in the very young, long before the school days have begun, can we hope to avoid all tertiary tuberculous phthisis in adult life.

BRONCHIAL ASTHMA DUE TO HYPERSUSCEPTIBILITY TO HENS' EGGS *

(From the Memorial Institute for Infectious Diseases, Chicago.)

K. K. KOESSLER, M.D.

Assistant Professor of Medicine in Rush Medical College

CHICAGO

It is the purport of this communication, first, to report on three cases of bronchial asthma due to hypersusceptibility to a certain food (hen's eggs); second, to demonstrate the similarity in the symptomatology of bronchial asthma with experimental anaphylaxis; third, to point out the importance of the allergic factor in the etiology of bronchial asthma.[1]

CASE 1.—R. G., boy, 13 months old; weight 23 pounds, 3 ounces; first child, normal birth. When first seen in March, 1909, the child was found in a state of severe dyspnea. Respiration, 48. Pulse uncountable and very soft. The face flushed and fretful. The nostrils were in constant vibration and all the auxiliary muscles of respiration were actively involved. The pupils were very much narrowed, and the whole head and back of the child covered with perspiration. The thorax was of emphysematous configuration, the lower aperture markedly distended. The whistling and stridulous breathing was audible all over the child's room. Palpation revealed the whole chest in strong vibration and auscultation, sonorous and distant râles all over the chest. The heart sounds seemingly pure in character. The mother reports that the child had a similar attack about three weeks ago. Two pediatricians who saw the boy at that time pronounced the case as bronchial asthma and advised a change of climate.

On closer examination regarding the diet of the child, it was learned that previous to the second attack the child had received for the first time some soft boiled egg and that the attack set in about one quarter of an hour afterwards with vomiting and diarrhea. It was further learned that previously to the first attack, some cake (cooky) had been given to the child.

No signs of enlarged bronchial glands were found. No asthma, hay fever, tuberculosis, diabetes or gout in the family. Pirquet negative.

Blood examination during attack on March 3: Leukocytes, 9,200; erythrocytes, 5,120,000; hemoglobin, 92 per cent. (Fleischl-Meischer); color index 0.9.

Differential count, March 12: Leishman stain; 300 cells counted. Lymphocytes, 56.2; large mononuclears, 1.6; polymorphonuclear neutrophils, 37.4; polymorphonuclear eosinophils, 3.4; mast cells, 1.4.

---

* Read at the Sixty-Second Annual Meeting of the Illinois Medical Society, at Springfield, May 21-23, 1912.

1. It must be stated here that a similar view regarding bronchial asthma was expressed by Dr. S. J. Meltzer of New York at the meeting of the Association of American Physicians, Washington, D. C., May 4, 1910. I held, however, the view independently of Dr. Meltzer after the observation of my first case in 1909, and expressed it repeatedly in discussions with Dr. Hektoen.

Differential count, March 21, Leishman stain, 300 cells counted. Lymphocytes, 55.4; large mononuclears, 2.2; polymorphonuclear neutrophils, 31.2; polymorphonuclear eosinophils, 9.1; mast cells, 3.1.

The urine was examined on the day following the second attack. Reaction acid, specific gravity, 1,016; no albumin, sugar or acetone was present.

Since it appeared obvious that the feeding of the egg might be incriminated as the causal factor of the attack, the following crucial experiment was carried out on April 14, with the full understanding and consent of the parents, who were eager that a definite diagnosis should be reached. One teaspoonful of fresh egg-white was added to one quart of milk well shaken, and 4 ounces of this mixture were fed to the child. Almost immediately after this egg and milk mixture was taken (accurately forty seconds) the child began to feel uneasy and cried. It began to choke and rapid breathing set in, the dyspnea soon reaching an alarming severity, the child wanted to be taken up and carried around, sitting constantly in an upright position. Whistling râles could be heard over both lungs, the stridor being audible at a considerable distance. About three-quarters of an hour after the egg was given there appeared an urticarial-like eruption all over the body, especially marked on the arms and thorax. This attack was treated in the same way as the previous one. One cubic centimeter of adrenalin, 1:10,000 was given subcutaneously and 1 gram of chloral hydrate in enema. Following the medication, the dyspnea lessened, but it took about five days until the child appeared again perfectly normal.

I considered the case as one of egg asthma; that is to say, as bronchial asthma induced through an allergic reactibility on the part of the child toward hens' eggs (alimentary anaphylaxis). The child, who had been weaned at 4 months of age, was put on an exclusive milk and carbohydrate diet, and all other proteins were carefully avoided. Phosphorus-cod-liver oil mixture and calcium lactate were given for a considerable period, since the child showed some of the stigmata of rickets. Eight weeks later, in June, 1909, I tried to overcome the hypersusceptibility in the following way: One drop of fresh egg-white as small as feasible was stirred up and shaken with two liters of water. From the albumin water, one drop was added three times daily to the food, preceded one-half hour by a capsule containing 0.3 grams of pancreatin and pepsin each. In the first days following this treatment the child showed some dyspnea, but this was much lighter in character and short in duration; also no urticaria appeared. This medication was therefore continued, the amount of the albumin water being increased weekly, until 15 drops of it were added three times daily to the food. The child left Chicago for the Upper Peninsula and was reported in the best of health during the summer months.

CASE 2.—A. M., girl, 9 years of age, seen first March 2, 1911. The present trouble began about the middle of February, 1911. The child became, while at the dinner table, suddenly pale and frightened, and complained about violent pain in the stomach, cramp-like in character. Vomiting and profuse diarrhea followed soon and about one-half hour after the onset of the attack there appeared an urticaria-like eruption all over the body. Towards evening of the same day all these symptoms had subsided and two days later the child felt again com-

pletely well and ate with appetite. But twelve days later the same type of attack occurred and since the child had had some omelette this evening the mother thought that a "spoiled" egg may have caused the illness and took especial care to obtain completely fresh eggs. The mother avoided also for some time the giving of any food containing eggs to the child. On March 2, 1911, the child asked for a piece of cake (angel-food) which was on the table and received it. Almost instantaneously the girl suffered from severe pain in her stomach and vomited a considerable amount of the meal just taken, and with it some pieces of the cake. The pain increased all over the abdomen and profuse diarrhea followed. The child felt cold all over and gasped for breath. About one hour after the onset there appeared on the extremities, on the thorax and slightly also over the face, some red patches which itched considerably. In this stage I had occasion to see the child. It was a somewhat over-developed child for its age of pasty-obese type. The skin showed solitary papules which had been scratched. There was marked cyanosis of the face, the pupils were of normal size and reacted well. Perspiration of the head and back, the respiration very labored and fast (44 per minute). The wheezing and whistling could be heard at a distance. No glands were palpable, nor demonstrable on percussion, the thorax in the inspiratory position and of a barrel-like appearance, the lungs distended and absolute heart dulness could not be outlined. Dry wheezing and sibilant râles over both lungs on auscultation. The pulse 124, the temperature 97.8. A very small sample of the sputum obtained on this day showed a considerable number of eosinophilic cells and ciliated epithelial cells, but no Charcot-Leyden crystals and no Curshmann's spirals. Blood-smears taken on this day showed on later examination: Polymorphonuclear neutrophils, 62 per cent.; lymphocytes, 32.2 per cent.; large mononuclears, 4.1 per cent.; polymorphonuclear eosinophils, 1.5 per cent.

The urine was acid, specific gravity, 1,019, a trace of serum albumin was present. No sugar but acetone and diacetic acid were both present in considerable amount. This was found on repeated examination. Functional test of the stomach on March 10, showed total acidity of 52; free hydrochloric 18, and no lactic acid.

The mother is subject to migraine; mother's father died of diabetes mellitus; father healthy but very neurotic temperament. The girl was nursed by the mother for six months; in the first two years of life she suffered from a weeping eczema which did not respond well to treatment. The child took eggs since its second year but though she had at first no distaste for them, she acquired a certain dislike because she suffered from nausea whenever she ate them. From time to time the child had urticaria and as the mother emphasizes, showed a puffed eyelid on the right side (angioneurotic edema). She had been subject to chronic constipation since infancy. Had whooping cough at 4 years, measles at 6 years; enuresis nocturna until two years previous.

I gave the child a hypodermic injection of 0.25 c.c. of adrenalin 1:1,000 in one c.c. of salt solution and an enema containing 1.5 gram chloral hydrate, and the following day the child felt well again, but somewhat weak. The clinical picture of the child when seen during the attack was that of a typical case of bronchial asthma. The allergy to the egg was definitely established by placing a drop of egg-white on the skin of the child, and scarifying it with a Pirquet needle. Twelve minutes later there appeared a red patch on the place of inoculation on the forearm followed by the formation of a blister—allergic skin reaction.

CASE 3.—Mrs. A. W. H. The patient is a woman, aged 28 years, mother healthy, father subject to hay-fever. The father had, as a child, an intolerance for eggs. Whenever he ate them, he suffered from cramps, diarrhea and vomiting but no asthma. At present he eats them freely and with no ill-effects, except for a slightly laxative reaction. The patient was nursed as a child by her mother for

nearly one year and was a healthy well-developed child, according to the testimony of the mother. The child had eaten egg without ill-effects until about two years of age. In the second year, after eating some soft-boiled eggs she became nauseated and covered with "hives." Since this time she could not eat eggs without feeling very sick. The patient says that she has not eaten eggs since she can remember. Her own recollection of the condition is of being sick after eating cake, ices and certain candies. She learned thus from experience not to eat anything supposed to contain eggs. Grown people considering this a childish fad often deceived her, and thus, in the patient's own words, she lost her faith in the truthfulness of the grown-ups. She has had very few attacks in the last few years; the last occurred in the summer of 1911, after eating some ice cream supposed to contain no eggs. She felt almost immediately itching and irritation of the mouth, lips and throat and felt little lumps appearing within the oral pharynx. This was soon followed by violent abdominal cramps and in the hope of ridding herself of the poisoning, she induced vomiting. But, as she puts it, "perhaps some of the vomited matter reached the nasal passages for they closed soon tightly, giving a sensation of intense pressure in the nose and head." This was followed by a great difficulty in breathing for though she was able to inhale the air she was unable to expel it. She felt as though suffocating and for several hours there was a continual flow of mucus from the mouth and throat. The abdominal cramps continued and were followed by severe diarrhea. The whole condition lasted about three hours. There were no bad effects the next day but she felt exceedingly tired and drowsy. The patient states that the yolk of the egg affects her in the same way as the egg-white. She has another allergy to food, namely, asparagus, which causes acute coryza, followed by typical attacks of bronchial asthma. This latter allergy exists since about ten years. It may be mentioned that the little daughter of the patient, 5 years old, eats eggs without ill effects.

We have then, here, three individuals in whom sudden attacks of expiratory dyspnea accompanied by vaso-secretory disturbances of the mucous membranes of the aerial passages, in short the symptom-complex, which we call bronchial asthma, can be definitely traced to a common food, namely, hen's eggs. Yet deterioration of the food did not bring about the toxic effect in the individual, but this toxic effect depended undoubtedly on the individuals themselves.[2]

The proof that the egg-proteins are really the causative factor in these cases of bronchial asthma lies not only in the clinical evidence, but in the animal experiments. If we inject an animal, for instance, a guinea-pig with a minute quantity of egg-white and repeat this injection with egg-white in twelve to eighteen days, then the animal shows the following symptoms: A few minutes after the second injection it begins to scratch the nose and body, becomes restless and chokes. Respiration is labored and there is retching and discharge of urine and feces. Convulsions may set in, followed often by respiratory arrest and death. The most striking phenomenon is the acute emphysema, the permanent distention of the lungs after death, due to a bronchial stenosis of peripheral origin, caused by a folding of the bronchial mucosa, through the contraction of the smooth muscle in the bronchi.

Beside the expiratory dyspnea there is a sudden fall of blood-pressure and of temperature, leukopenia, a lowered coagulability of the blood and

2. Similar cases have been previously described in the medical literature. A full survey of all cases on record will be given in an article on "Allergy to Eggs," which will appear in the *Journal A. M. A.*

a marked decrease in the complement content. On subcutaneous injection, there are edemas followed often by necrosis. This is not a new experiment to demonstrate the production of egg asthma in the animal, but the fundamental experiment of anaphylaxis. The symptomatology is the same, however, as in our three cases of egg-asthma, and yet there are apparently two differences. We define allergy or anaphylaxis as a disorder in the normal protein metabolism due to the parenteral introduction of foreign protein. Parenteral means with avoidance of the intestinal route. The intake of the egg, however, was in our cases, enteral. This difference is only an apparent one, for traces of the heterogeneous protein may pass directly through the stomach wall into the blood. The second difference in our cases is the fact that the first sensitizing dose seems not to have been given. There is a great probability in all of our cases that one or several previous intakes of egg albumin occurred in the form of cakes, which may have sensitized our patients. But this is not essential. For the substances which split the protein in the blood to toxic products may be present from birth in an abnormally high amount, through a peculiar diathesis of the individual. This individual disposition, or in Greek diathesis, called by German authors "krankheitsbereitschaft," which means preparedness for disease, constitutes in itself the sensitized state (diathetic anaphylaxis). In this way we may indeed, with v. Strümpell, speak rather of various asthmatics than of various asthmas. The similarity, or shall we say identity, between anaphylaxis and asthma shows itself further in the following points: Anaphylaxis is a condition which may be inherited, so is asthma. Anaphylaxis is specific; animals sensitized to one form of protein will react only to this protein; the same is true in all cases of egg-asthma. Other proteins, as meat, may be ingested without the slightest discomfort, and a careful examination shows there are no demonstrable disturbances in the general metabolism of protein matter. The port of entry of the incriminated factor is only rarely the stomach, as in our cases (though it seems we have to revise the whole question of the asthma dyspepticum, according to the view outlined). As a rule, it is the nasal and respiratory tract through which the asthmatogenous substances, dust, powders or odors take possession of the bronchial mucosa. It has been shown by Weichardt and by Busson that anaphylaxis may in fact be produced by sensitization through the aerial route. For hay-asthma these facts have been now long experimentally established. In this light even the most paradoxical cases of nervous asthma meet with a better understanding. When Austin Flint tells us of a child who had attacks of asthma whenever it slept on a feather bed, and which he cured by making it sleep on a couch stuffed with horse-hair, then we now know that this child was sensitized to the keratin-proteids of the feather. If a famous American general (General Roberdeau) had an excessive antipathy toward cats, in that he ascribed to their emanations his attacks of asthma, we must not accuse the general as suffering from hysteric asthma, but remember that H. Gideon Wells has shown that one-twenty-millionth of a gram of protein is sufficient to produce a distinctly sensitizing effect in animals, and that the sensation which we call odor is in the last instance, absorption of such minute particles of matter.

Those cases of asthma which begin with a cold, with an infection of the nasopharynx and in which the bronchitic factor is markedly pronounced from the beginning, will have to be regarded as cases of sensitization to the toxoproteids of microorganisms. In these cases active immunization with bacterial vaccines has given me excellent results in two cases due to the influenza bacillus and in three caused by the pneumococcus. Thus the identification of asthma as a manifestation of an inherited or acquired allergy or anaphylaxis is able to unite and explain in a satisfactory manner the heterogeneous theories of the underlying mechanism of the asthmatic crisis.

SUMMARY

1. There exists a form of bronchial asthma which is undoubtedly due to a diathetic allergy or anaphylaxis toward hen's egg.

2. In most cases of bronchial asthma the causative factor lies in an allergic reactibility of the individual.

3. The multiplicity of asthmatogenous substances is explained by the multiplicity of proteins, which may be split into anaphylatoxins.

MUSCLE DEGENERATION AND OSTEOMA *

LAWRENCE RYAN, M.D.
CHICAGO

The title of this paper relates to such an extensive topic that I shall not attempt to take it up in its entirety. I shall confine the paper to the changes that occur in myositis ossificans traumatica.

Some thirty years ago Volkmann, of Halle, described the occurrence of osteomas arising from the periosteum. He attributed these growths to irritation or inflammation. This he first noticed in the tissues of the floor of old leg ulcers. Some of these became extensive in area, in fact, the longer the duration of ulceration, the larger the osteoma. Later, he, Poncet and Tillmanns, of Cologne, described tumors of bone occurring in muscle. These tumors were regarded as the result, in some cases, of a single trauma, often slight, in others of severe and in still others of often repeated trauma. They were observed most frequently in traumas resulting from a dislocation of a joint or the kick of a horse or the blow from the butt of a musket. Usually they were observed in the vicinity of a joint. These bony growths were observed most frequently in the brachialis, anticus and the quadriceps extensor; they also occurred less often in the adductors, gracilis, deltoid, glutei, coraco-brachialis, masseter, triceps, subclavius and others. These growths have occurred with such regularity in certain muscles that they have commonly been known as exercise bones. That occurring in the brachialis anticus has been

* Read at the Sixty-Second Annual Meeting of the Illinois State Medical Society, at Springfield, May 21-23, 1912.

called the turner's bone. The old wood-cut of the ossification of this muscle copied from the work of Volkmann and later by Tillmanns was and is, still, copied as an example of the classical type of this affection.

It was thought at one time, before the advent of the Roentgen rays, to be a very rare affection. Since the more general use of the *x*-rays, cases have been reported frequently. It has been found that these osseous growths occur in several regions and in a dozen or more muscles. One observer, Schultz, a German Army surgeon, has collected and reported 295 cases. These cases were treated in the German military hospitals in the decade including and preceding 1907. Werner reported 101 cases that had been treated in the surgical clinic at Munich. He collected more than twice that number from the literature. It is safe to say, after a diligent search of all the available literature, both domestic and foreign, that there are upwards of 500 cases reported of myositis ossificans traumatica.

The first clinical signs or symptoms are those of trauma. The part affected is discolored and swollen. The swelling is quite marked and persistent. Pain and tenderness are constant in the early stages. Temperature is neither high nor constant, if at all present. Restriction of function is a prominent feature. As time goes on this usually becomes more marked. Of course, all degrees of trauma and the reaction to the same may and do have different results. In some cases the affected area results in restricted motion, if in a muscle, and to more or less complete ankylosis in case a joint is involved. Many cases have been treated as sprains, contusions, dislocations and fractures of the various processes of the bone, in the joint involved. The persistent stony hardness being taken for callous; the result of fracture. Not a few patients consulted a surgeon only on account of the persistent or increasing disability.

The etiologic factors in the cause of ossification of tissue in the one case, and the complete absorption of the results of trauma in the other and by far the more numerous instances, are not known. Many theories have been advanced; many deductions have been drawn from cases accurately and repeatedly observed. Still no positive proof nor generally accepted view has as yet been advanced. Probably one reason for this is the different stages at which the cases have been operated on, and the specimens examined. Undoubtedly bone is produced from the bone and periosteal fixed tissue cells. The tendon, connective tissue and perimysium participate at times.

Frank reported a case operated on where he found two osseous portions. One entirely in muscle; the other deeper and attached to the periosteum. By far the greater number of observers believe that the osseous changes are due to an inflammatory process of hematogenous origin. Berndt believes that the ordinary pus organisms cause the inflammation. He believes also, that if no infection occurs, no bone is formed and *vice versa*. He believes that all forms of myositis ossificans as acute, chronic and progressive, so-called, are all different phases of

the same inflammation and are all caused by the same bacteria under different conditions and in different locations.

Busse and Blecker in support of the inflammatory theory state that most of the tumors begin in muscle and contain connective tissue, cartilage, osteoid cells and mature bone cells mixed indiscriminately. They claim that the mass composed of these cells may be absorbed, partly or wholly. On the other hand, such men as Mays, Kimmel, Pinter, Helfereich, Lehmann, Munro, Pincus, Bartsch, Cohn and others, still believe that it is a true osteoma.

Nicoladoni believes that the condition is due to trophoneurotic changes. He believe that the condition is analogous to progressive muscular atrophy and to pseudohypertrophy, etc. The electrical reactions, however, indicate the absence of the neurotrophic factor. With the exception of two cases of cerebral palsy, and one where an osteoma occurred in a laparotomy scar, all the cases reported were in young children, adolescent or young, healthy adults. No mention of neurotic symptoms has appeared. This speaks more positively against, than for, a trophoneurosis as generally understood.

A few observers, among them Tillmanns of Cologne, believe that the synovial fluid liberated from the joint by the injury, may have some unusual action on the injured tissues. This view seems untenable. We know that thousands of cases have a joint opened by accident or intent and no osteoma develops. The reason for this view seems to have arisen from finding a gelatinous synovial appearing fluid in the bony cystic formations that have been found in a few cases. We also know that in bone healing in an open wound we have this same gelatinous fluid even when in the middle of a long bone and not connected with a joint.

Others have advanced the usual explanation that this is another instance of misplaced periosteal, chondral or osseous buds. Atavism has also been suggested in explanation. The claims that the analogy between the osseous formations that occur along the sides of bone in the limbs of the lower animals, and myositis ossificans, do not seem to be fully substantiated. These growths known as splints, etc., are primarily bony growths; they arise from bone or periosteum. They usually occur on the feet or legs of the animal and appear to have a function. This seems to be to reinforce a weakened part where there is an extra strain. In man these growths rarely occur in the feet or the hands.

Wolter has described the occurrence of lymph cysts in connection with myositis ossificans. These probably are only accidental. In severe injury where the structures along the anterior surface of a limb are traumatized the lymph system must also be more or less injured. The cysts are probably due to the injury and the interference with the return lymphatic system.

The pathology as described by Virchow was believed to be peculiar to this affection. He believed that it was due to a peculiar diathesis — "Diathesis ossificans sive ossea," he designated it. He considered the growth as being on the border line between a new growth, osteoma, and

an inflammatory process, the result of muscle degeneration. He was more inclined to the latter view. He believed that these changes occurred in and were derived from the muscle cells, and not from periosteum nor from bone, nor connective tissue.

The only settled change of opinion is in the view that the periosteum and connective tissue produce bone and that the participation of muscle tissue is an accidental occurrence. The belief in this view is practically unanimous. Otherwise we have the tissue changes found in trauma, callous formation and repair in ordinary bone healing after fracture.

Prognosis depends wholly on the reaction of the part to the injury. The occurrence of a large hematoma is thought by some observers to have a direct bearing on the presence and the extent of the osseous formation. One of the largest bony deposits reported was in the case of a hemophiliic. The effusion of blood was large and the brachialis anticus was so completely ossified that it ankylosed the elbow joint. Almost all marked cases either have some degree of ankylosis of the joint or restricted muscle action. This causes the case to seek the surgeon. One surgeon collected a series of 100 cases operated on with restored function and no recurrences.

The diagnosis is made on the history of trauma. The early or the late signs of trauma are present. The persistence of the stony hard swelling, the tenderness and the limitation of motion after the time usually required for an ordinary trauma to subside should give rise to the suspicion of myositis ossificans. The *x*-rays taken in at least two planes reveal a shadow due to the presence of bone in one of them. This evidence has been found as early as the eleventh day, and is usually present four weeks after the injury. A few cases never produced a shadow and yet bone was found at operation. It should be remembered that rheumatoid arthritis and gout also may cast shadows similar to those of myositis ossificans.

Treatment is divided into conservative and radical. Conservative treatment is indicated during the early stage of the affection. The most essential treatment is rest, hot or cold applications and aspiration of the fluids if in excess. Bier's hyperemic treatment, fibrolysin injections and counter irritation may be of benefit. Massage and motion, active and passive, have been given as the causes of the ossification when used in the early stages.

When the *x*-rays show a bony growth and the process is at a standstill, removal is the best procedure. Recurrences usually mean early and incomplete removal. The removal of muscle surrounding or connective tissue attached to the growth is also advised. In case the tumor is subperiosteal or attached to the periosteum, removal of the periosteum is advised. This is not always necessary, especially where the tumor has ceased growing.

Case 3 of my series was a subperiosteal tumor. The periosteum was split and left attached at the muscle. There has been no recurrence after two years.

CASE REPORTS

CASE 1.—October, 1900. Boy, aged 16 years, fell upon his outstretched hand. Consulted a physician who said that he had a dislocation backward of the elbow joint. Reduced the dislocation.

Case seen for the first time six months later. Could not flex the forearm beyond a right angle. Extension was also much restricted.

A firm hard mass could be felt over the lower and anterior surface of the humerus. Diagnosis of myositis ossificans of the brachialis anticus muscle. No *x*-ray taken at that time and operation was refused.

CASE 2.—May, 1910. Girl aged 10 years. This patient came to the surgical service of Dr. A. D. Bevan at Rush College. He kindly turned the patient over to me for clinical purposes.

Patient gave a history of having fallen on her right forearm one month ago. Consulted a physician. He diagnosed and reduced a posterior elbow dislocation. Patient sought aid for the relief of restricted motion in the elbow joint.

Could not flex the forearm beyond a right angle. A limited hard swelling could be felt on the anterior surface of the elbow joint. *X*-rays showed a beak-like projection over the anterior surface of the coronoid process of the ulna. This extended upward and backward.

Patient was operated on one week later. The shadow showing the spur-like process was found to be the ossified tendon of the brachialis anticus muscle. This was 5 cm. long by 1 cm. wide. Its upper end was intimately adherent to the body of the muscle. An equal amount of the apparently normal muscle was removed with the osseous growth. Normal wound healing. *X*-rays after operation showed spur of bone absent. This patient was very much improved two months after the operation when I last saw her.

CASE 3.—A healthy active man, aged 35 years, had been subjected to prolonged and extreme exposure. Subsequent to this he ran a high temperature and was delirious for some weeks. During this period he had to be restrained on numerous occasions. On recovering two swollen and tender areas similar in appearance appeared. One was just below the left popliteal space, and the other was in front and above the right elbow joint. These were treated for two months or more by rest and hot fomentations. At first they appeared as tender swellings. They persisted and eventually became harder. At the end of four months an *x*-ray showed the growth above the right elbow. The popliteal swelling disappeared. In May, 1910, this case was operated on in the Rush clinic.

The apparently normal brachialis anticus muscle was found covering the large bony hook-like growth. The bony process appeared wholly beneath the periosteum which was readily pushed off. The bony growth was removed with a chisel. It was firmly attached to the shaft of the humerus. It was attached by a mass of apparently compact bone 5 cm. long by 2 cm. wide. It was attached by its tip to the tendon of the brachialis anticus. The tendon was not ossified. There were three quite large foramina in the base of the growth. These even show in the *x*-rays. They transmitted large veins to the interior of the bone. The articulation was opened accidentaly during the removal of the bone.

Microscopical section showed only compact bone.

Function was restored almost fully in a short time and has remained.

CASE 4.—September, 1911. At Cook County Hospital. Male, aged 30 years, had received a blow about three weeks before on the front of the lower part of the arm. Complained of tenderness of the part and swelling with inability to flex the forearm. A bony hardness was present over the lower part of the front of the humerus. This seemed quite wide in extent. *X*-rays showed only a faint shadow. Patient was asked to return for *x*-ray examination in a few weeks. He returned but the condition was unchanged, clinically. He promised to return two weeks later but did not.

The clinical findings were that of myositis ossificans. Whether it became more pronounced or cleared up, as some cases do, is only conjectured.

A brief analysis of the two cases operated on reveals the following:

Case 2.—Backward dislocation of the elbow joint with reduction. One month later a well defined shadow with the *x*-rays. This shadow proved to be bone, in the tendon of the brachialis anticus muscle. It was so ossified and attached to the anterior surface of the coronoid process that it had to be chiselled off. The tendon only was ossified. It had every appearance of true bone.

Case 3.—The same condition as in Case 2, except that the bony growth was larger, being 8 cm. long by 2 cm. wide and 2.5 cm. high. This was wholly beneath the periosteum and appeared to be a simple osteoma, both in its macroscopic and microscopic appearance.

Frangenheim believed that in the cases studied by him he could establish a striking analogy between the callous that occurs in bone repair in simple fractures and in which bone, periosteum, connective tissue and perimysium appear to be part and the callous or condition resembling callous that occurs in myositis ossificans traumatica.

It is characteristic of newly formed cells to revert to embryonic types. In the case of myositis ossificans or only in the few instances compared with the whole number injured this is carried too far and another type of the same mesoblastic tissue is produced. This seems a more logical explanation of the changes observed in the limited number of cases that I have seen.

In the last few years since the Roentgen ray has become almost universally used, the demand both of surgeon and patient has been for better approximation. This has led to the open operation and the use of bone plates or the more permanent retention apparatus. This requires an absolutely aseptic technic or the failure to obtain perfect results. If bone or periosteum or muscle are infected even slightly, it will show itself sooner or later. The number of cases of myositis has not increased as one would expect if it were due to an inflammatory process.

It has been proved beyond doubt that muscle cells do not primarily produce the osseous tissue. Therefore myositis is a misnomer. The myositis ossificans in its quiescent state appears anatomically, pathologically and surgically to be a simple osteoma.

LITERATURE

Groskurth: Deutsch. Militar. Zeit., 1908, No. 18.
du Pau, C. M.: Rev. méd. de la Suisse romande, 1909, No. 1.
Bocker, Bardenhever, Drehmann, Wulistein and Machol: Zentralbl. f. Chir., No. 29, 1908.
Steinert: München. med. Wchnschr., 1910. No. 13.
Püster, A.: Arch. f. klin. Chir., vol. lxxxix.
Caminiti: Policlinico Sez. Chir., 1908, xvi, 1.
Tillmann's Text-Book of Surgery, 1899.
Chiari: Prag. med. Wchnschr., 1892, No. 35.
Lexer: Arch. f. klin. Chir., 1895, vol. l.
Lexer-Bevan: Text-Book of Surgery.
Nadler: Deutsch. Ztschr. f. Chir., 1904, vol. lxx,
Volkmann's Samml. klin. Vortr., 1895.
Virchow: Verhandl. d. Berl. Med. Gesellsch., 1894.
Wolter: Deutsch. Ztschr. f. Chir., 1902, vol. lxiv.
Bloodgood: Tr. South. Surg. and Gynec. Assn., 1909.
Landow: Deutsch. med. Wchnschr., 1904, vol. xxx.
Schuler: Beitr. z. klin. Chir., 1902, vol. xxxiii.
Borst: Die Lehre von den Geschwulsten, 1902.
Peters: Bryant & Buck, vol. iii.
Berndt: Langenbeck's Archiv., vol. lxxix. No. 3.
Calamida: Arch. di ortopedia, 1905, No. 3.

Schulz: Deutsch. Militar. Ztschr., 1910, No. 4.
Vanderbossche: Arch. gén. de chir., 1910, vi, 2.
Rubaschew: St. Petersb. med. Wchnschr., 1910, No. 6.
Horvath: Ztschr. f. orthop. Chir., 1910, vol. xxv.
Ewald, P.: Zentralbl. f. Chir., 1910, No. 22.
Strauss, M.: Langenbeck's Arch., lxxviii, No. 1.
Frangenheim: Langenbeck's Arch., lxxx, No. 2.
Frank, K.: Langenbeck's Arch., lxxvi, No. 4.
Busse and Blecker: Deutsch. Ztschr. f. Chir., vol. lxxiii.
Werner, W.: Inaug. Diss., München., 1904.
Nove, Josserand et Horand. Rev. d'ortrop., 1905, No. 3.
Jardry: Rev. d'orthop., 1904, No. 6.
Bode, Auschutz, Muller, Konig and Nosske: Zentralbl. f. Chir., 1909, lxxviii, No. 34.
Aizner: München. med. Wchnschr., 1909, No. 15.

A CASE OF CRANIAL INJURY ASSOCIATED WITH A SPINAL LESION *

ARTHUR B. EUSTACE, M.D., AND RALPH C. HAMILL, M.D.
CHICAGO

The types of cranial trauma that we most commonly meet in the city may be briefly mentioned as concussion, skull fracture and intra-cranial hemorrhage, either of the subdural or extradural type.

I will not attempt to discuss the symptoms of these individual conditions, as they are well known to all present and would involve a considerable amount of time.

The association of a spinal lesion with an injury to the cranial vault is no doubt a somewhat rare condition and is well worthy of discussion at this meeting.

Our idea in the presentation of this case is to call to your attention a symptom complex somewhat out of the ordinary and to furnish subject matter for discussion as to the diagnostic possibilities and the treatment of the condition as a whole.

It had been my privilege to have had an opportunity to observe this patient from time to time for a period of eighteen months previous to his injury and to know others that had been in daily intimate association with him for several years, thus allowing me to have a definite idea as to his character and disposition, which I might state was of a mild and easy-going type.

The case presents a distinct neurologic phase as well as a surgical one and I am led to believe that the services of a neurologist will often be found to be indispensable to the surgeon in certain cases that will present themselves.

CASE 1.—*History.*—Patient, E. W.; occupation, elevator man; aged 28 years. Previous history negative as to its bearing on current condition. Was injured May 31, 1911. While stooping to lift an object from the floor of the elevator, he was struck by a milk can weighing about eight pounds which had fallen down the shaft from the third floor. He fell forward striking on the right side of his face and immediately became unconscious.

I saw the man within fifteen minutes after the accident and examination showed him to be in a profound coma from which he could not be aroused. His

---

* Read at the Sixty-Second Annual Meeting of the Illinois State Medical Society, at Springfield, May, 1912.

pupils were slightly dilated and the extremities lax. A small scalp wound was found in the region of the occipital protuberance from which there came considerable hemorrhage. He was taken at once to the Post Graduate Hospital.

The hospital records show the operation as follows: A large semilunar incision was made and a musculocutaneous flap laid back. The periosteum was incised, elevated and retracted. A small linear fracture about one and one-half inches long was evident just below the occipital protuberance. No evidence of depression noted. Suture was then made of the periosteum and occipitofrontalis muscle and a ligation of all bleeding vessels in the scalp. Insertion of small gauze drainage and closure of the wound with continuous interlocking suture.

The patient regained consciousness an hour and a half after returning from the operating-room and did not know where he was or what had happened. His pulse at this time was recorded as 88. Twelve hours later the record shows his pulse to have been 68.

On the following morning the patient developed a flexion and extension paralysis of the right wrist and fingers of the right hand. An anesthesia of the entire palmar surface of the hand and a partial one of the dorsum could be demonstrated.

Four days after the injury I called in consultation Dr. Hamill. I will not attempt to discuss the neurologic findings at all as Dr. Hamill, who will follow me, will present them in detail.

Spinal puncture was made four days after the injury and several drams of fluid removed under tension. A microscopic examination of the centrifuged fluid showed a few unchanged red blood-cells. A skiagraph made on the following day showed a normal condition and contour of the cervical and upper dorsal vertebra. On the seventh day his pulse is recorded as varying from 52 to 56. He left the hospital June 15, 1911, the paralytic condition of his arm very much improved.

Three days after he left the hospital, while lying in bed one night, he had a hemorrhage from the right ear of about 3 drams of bright-red blood. From that time he complained of a constant roaring in the right ear.

Examination showed a rupture of the tympanum and a complete nerve deafness on that side. On the following day the patient began to exhibit distinct signs of mental disturbance and attempted suicide and homicide. He did not recognize his wife or his father, and claimed that he had never seen them before. He did not know his friends or his physician and had no recollection of ever having been injured. His mind was a complete blank, and he talked of strange conditions and people of which his wife knew nothing.

He did not know where he was employed or in what capacity and did not recognize the name of the corporation by which he had been employed for the last ten years. At times he claimed to be wealthy and at other times admitted that he had no substantial means other than a small income which came from an unknown source. He was readmitted to the hospital June 23.

The records state that he was "delirious" and constantly walking around his room like a caged animal, muttering incoherent words. A blood examination showed 4,400,000 red blood-cells, 5,400 white blood-cells and 100 per cent. hemoglobin.

The differential white count showed 34 per cent. small lymphocytes, 28 per cent. large mononuclear and transitional and 43 per cent. polymorphonuclears. Urine, negative.

A spinal puncture was made June 24 and several drams of fluid removed under tension. On the day following this procedure his mental condition showed a marked improvement and at the end of another twenty-four hours he began to talk like himself, recognized his surroundings and his family and friends.

He remembered absolutely nothing that had happened for the past five days and would not believe our story of his actions during that time. He gradually improved and left the hospital June 28, 1911.

I wish to emphasize the great importance of spinal puncture in injuries to the skull. Spinal puncture should always be made not only for its diagnostic aid, but for its therapeutic value. This patient showed a marked improvement following this procedure, especially when a second puncture was made four weeks after his injury when his mentality was in a most dilapidated condition.

I fear that too many of us are apt to use more radical methods in conditions of this type and I believe that while conservatism will in many cases prove disastrous, each individual case should be thoroughly studied before any radical operative methods are used. Spinal puncture should always be made as a preliminary measure, and failing to give a definite therapeutic result, more radical measures may then be adopted.

Dudley P. Allen, in an article published some three years ago, reports twenty-eight cases showing latent manifestations of intra-cranial hemorrhage, traumatic in origin. Spinal puncture was not made in any of these cases.

In summary, the following conclusion can be drawn: We know from observation at operation that a simple linear fracture of the skull with no depression of the outer table did exist. From the subsequent findings, which Dr. Hamill will now discuss, we feel that an associated lesion of the cord was present.

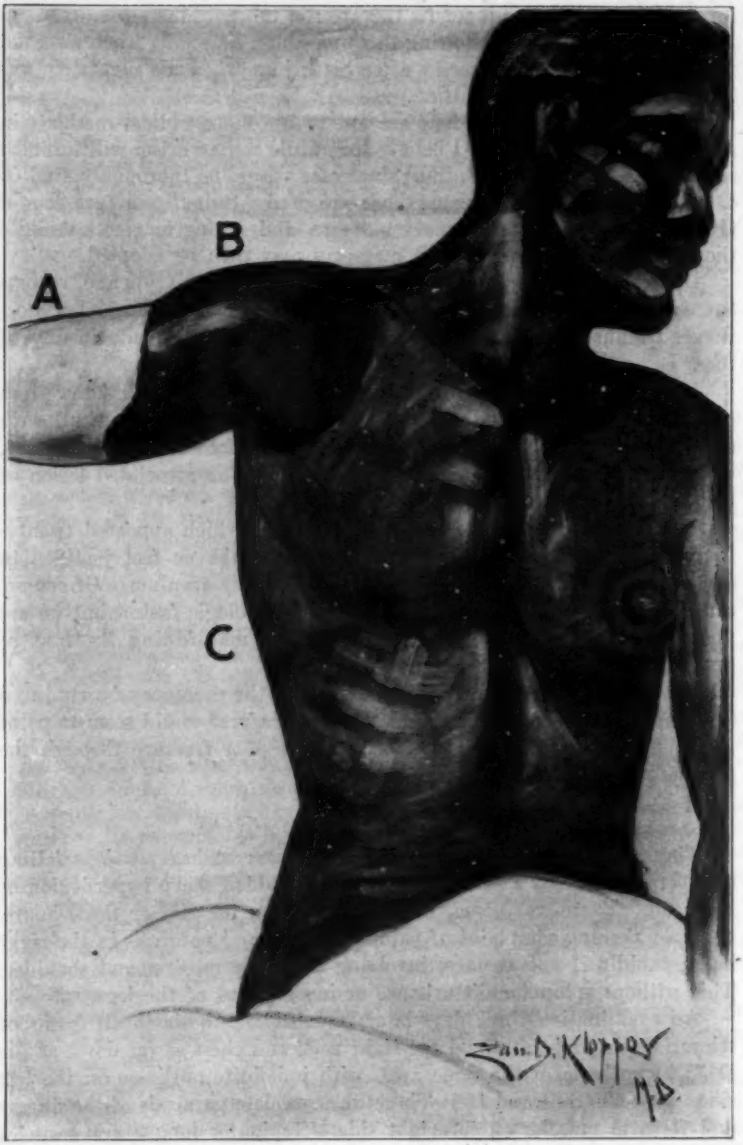
The latent symptoms of mental disturbance which appeared twenty-four days after the infliction of the trauma make us feel justified in diagnosing a small point of hemorrhage within the cranium. Of course, concussion should be considered as a possible etiologic factor, but we are unable to find any records of this condition manifesting itself at so remote a time after the reception of an injury.

The discharge of blood from the right ear, the presence of a ruptured drum and the existence of a complete nerve deafness would seem to point to trauma to the auditory nerve as a result of a fracture through the petrous portion of the temporal bone.

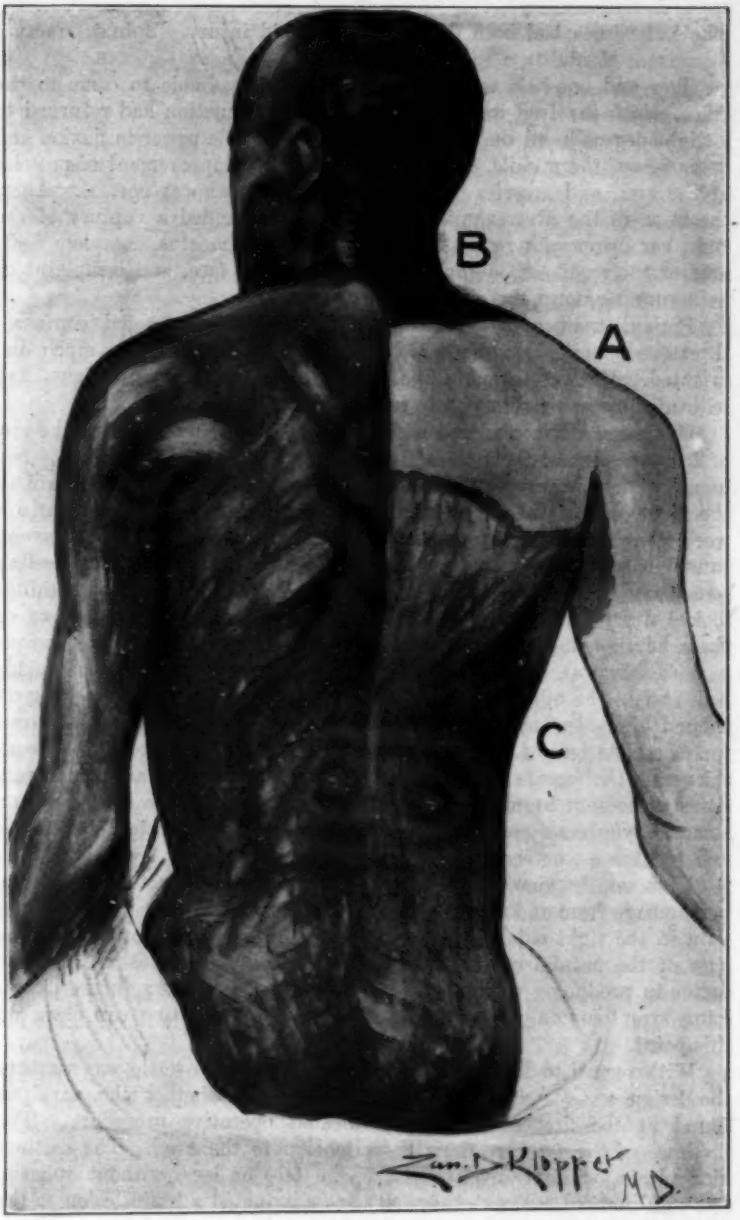
A CASE OF CERVICAL ROOT INJURY

The neurologic side of this case is as follows: A heavy weight falling eighteen feet caused a skull fracture and a sudden sharp hyperflexion of the head. There was coma, more or less deep, for two or three hours, and on wakening complaint of pain, numbness and paralysis in the right hand, rapidly if not at once, involving the forearm, arm and shoulder. This without sphincter disturbance or involvement of the legs.

An examination three days later revealed anesthesia to all forms of stimuli of the right arm and the right neck and chest as far down as the D 5; hypesthesia of the same area, with indefinite outlines, on the left side. (See Charts I and II.) There was complete paralysis of the fingers and forearm muscles on the right side. Supinator longus and muscles of the arm and shoulder girdle were weakened. The deep reflexes in the right arm were diminished. Other tendon reflexes, plantar and abdominal reflexes normal. The right pupil was normal and medium sized.



Examination of Sensation June 5, 1911. Area A. Anesthesia to touch, pain, temperature, and joint and tendons sensations. Area B. Hypesthesia.



There was also hypesthesia gradually merging to normal in the same areas on the left side.

Two weeks later the anesthesia was found to involve the anterior surface of the right chest as far down as the nipple.

The left cornea had been destroyed by an old injury. Spinal puncture negative. Mentality a little dull.

Two and one-half weeks later the patient was able to come to the office, which involved walking several blocks. Function had returned to a slight degree in all the hand muscles, considerable power in flexion and extension of the middle, ring, and little fingers, improvement of muscles of the arm, and muscles of the shoulder girdle almost normal. Anesthesia as in the first examination. There was added a rupture of the right ear drum with recent clots in the external meatus, complete deafness of the right ear, slight paresis of the right face, and complaint of pain running down the right side of the neck.

Patient went home from the office examination, acted confused, threatened homicide and suicide, talked at random, and was much disoriented. He was taken to the hospital, a spinal puncture done, and within a few hours returned to normality.

Operation was considered with the hope of finding a clot at the site of fracture seen at the time of injury, but was refused by patient. Six months later, January 30, 1912, the patient still complained of pain in the right side of the neck, had been having headaches, two or three a week, over the right frontal and temporal regions which, when severe, caused nausea and dizziness. He had had occasional attacks of feeling something working up inside, then he would feel light-headed, "things looked dizzy," and after a half hour profuse perspiration. In two of these he said he lost consciousness. During one of these unconscious periods, however, his wife, who is a small woman, lifted him on to his bed, and in the other he confessed to a hazy idea of what was going on around him. In fact, in neither attacks does it seem certain that there was complete loss of consciousness, rather the dreamy clouding of consciousness that occurs in psychasthenic attacks. He was put on moderate doses of sodium bromid without further attacks. There have been no somatic symptoms pointing to an intracranial lesion; fields of vision and reflexes +, no cerebellar symptoms or signs.

However, in view of the signs of basilar skull fracture, i. e., the hemorrhage from and deafness in the right ear, the facial paresis, and the pain in the right side of the neck, the presence of a hemorrhage at the base of the cranial cavity must be taken into account as an etiologic factor in producing these attacks. In the absence of any further localizing symptoms only time or a post-mortem examination can clean up this point.

With regard to the paralysis the first question to settle was whether the lesion was cerebral, spinal, or peripheral; whether the paralysis found at the first examination indicated operative procedure. The presence of the fracture drew the attention to the head. The distinct monoplegia, without involvement of the face or legs, without aphasia, but with marked sensory change at once eliminated a brain lesion as the source of the paralysis.

The third possibility, namely, could the symptoms be due to a lesion of the cervical plexus, can likewise be readily eliminated. However,

drawing attention to the plexus was the distribution of the anesthesia including fairly accurately the areas supplied by the terminal branches of the plexus: the musculocutaneous, radial, ulnar, median and internal cutaneous. The circumflex area was less markedly affected.

Inasmuch as the muscles of the upper arm were less affected than those of the hand and forearm and as the anesthesia was more persistent over the hand and inner side of the forearm and arm, one must consider a lesion involving the lower branches of the plexus, namely, the 7 C, 8 C and 1 D. This, however, does not explain the extension of the anesthesia to the level of the 5 D. Also in lesions of the plexus the rule is for the sensory symptoms to regress and the motor to persist, the opposite to the facts in this case. Also if there was some traumatic lesion of the plexus one would expect to find some tenderness or swelling such as might be caused by hemorrhage in the region of the plexus. Nothing of this nature was found. Also at the first examination sensation was found affected, though to a less degree, over a corresponding area on the left side of the body. This would presuppose a bilateral trauma of the plexuses. In view of their location, between the borders of the trapezius and the clavicle on each side, such a bilateral trauma is in the highest degree improbable.

The question of a root lesion I will take up after briefly considering a lesion of the cord itself.

What lesion of the cord could produce the symptoms in this case? Hemorrhage is the only one requiring consideration. Cord hemorrhages, especially when unassociated with lesions of the vertebræ, practically all originate in the gray matter. Hemorrhage into the gray matter of the cervical enlargement and upper dorsal cord could cause all these symptoms, but such a hemorrhage would be practically certain to cause some symptoms in the lower body and legs by its pressure on the tracts running to and from these parts: anesthesias, spastic paralyses, or sphincter disturbances. Also a syringomyelic dissociation of sensibilities, i. e., loss of pain and temperature sense with preservation of touch, is much more common with such a hemorrhage than an involvement of all forms of sensibility as occurred in this case.

There is left a root lesion to account for the symptoms. In the cervical region the spinal roots have an intradural course of about .5 cm. They run from the fairly mobile cord, hanging suspended in the dural canal, to the fixed intervertebral foramina. The fifth and sixth cervical vertebræ are the most mobile of the spine, so when the weight hit and sharply flexed the head the point at which the sharpest angle of the cord occurred was at the level of the seventh cervical and first dorsal segments. As the cord was pulled sharply over the more fixed body of the 7 D. vertebræ there was a sudden stretching of the roots, especially the posterior. Such a stretching could readily cause multiple capillary hemorrhages as well as simple stretching of the nerve fibers. The severe, sharp, heavy pain the patient complained of on regaining consciousness was typical both in intensity and distribution of a root lesion, probably from the 6th or 7th C. The anesthesia occupied the regions supplied by

the 4th, 5th, 6th, 7th and 8th C; 1st, 2d and perhaps 3d D roots. The paralysis being most marked in the hand muscles and forearm seemed to point to greater disturbance of function of the lower rather than the upper cervical roots.

In conclusion this case presented a traumatic lesion of the roots of the cervical plexus and of the 2d, 3d and 4th dorsal pairs, the posterior more than the anterior, and those of the right much more than those of the left. There was also a basilar skull fracture possibly accounting for the late psychic manifestations. Improvement in the psychic symptoms followed directly on the spinal puncture.

DISCUSSION

Dr. Harold N. Moyer, Chicago: This paper I take it is of considerable interest in respect to complicating factors in skull fractures, and I see lots of skull fracture cases.

It is largely for the purpose of emphasizing certain points brought out in this paper that I want to say a word. The view that is held by surgeons regarding skull fractures seems erroneous, at least generally so. A fracture to the skull does not do anything necessarily of itself. The damage is to the brain, associated with it, and that is all that is necessary to find out. I have seen the whole base of the skull torn literally in fragments without the slightest mental symptom or injury to the brain, and, of course, operation was not necessary. There could not be anything done. He lost his eye, lost hearing in both ears and ultimately his other eye disappeared and the inside of his nose ran out, and he never had a mental symptom; never was unconscious, illustrating the fact that it is what happens inside the brain that is important. It seems to me that the skull and brain together should be looked on as a joint; an injury to the knee-joint at first apparently is not very severe. The patient walks, but within a few hours comes on swelling and edema and then the joint has to be opened. This is just what happens in skull fractures. It is the edema and pressure that give you the danger. The rule I follow out is this, and I believe it to be a good one: the patient is brought into the hospital and examined carefully; everything is gone over carefully and then he is generally watched. We do not make the examination and casually look him over a few hours later. I believe that is a very great mistake. In every one of these cases I had the examination is repeated at least every six hours, a complete examination; every reflex is gone over, particularly those about the ankles and the upper extremities. Everything is gone over completely. It is astonishing how many of these cases six, eight, ten, twelve or fifteen hours afterward begin to develop symptoms. The interesting and particular thing about these cases is the recurrence of hemorrhage, and I have never seen an ear hemorrhage come on so late. They generally come on immediately.

I emphasize the statement made by the essayist as to the value of lumbar puncture. If in doubt about anything, do a lumbar puncture. It often has a very valuable therapeutic effect and is always valuable from a diagnostic point.

Dr. Frank P. Norbury, Springfield, Ill.: I would like to mention the mental symptoms which are found in traumatic cases, sometimes immediately following the injury; in other cases at quite a remote period and in others the tendency to recurrent mental symptoms.

Acute or immediate mental changes are usually associated with laceration of brain tissue (or profound concussion), where after a longer or shorter period consciousness is regained and a state of confusion intervenes. Under appropriate rest methods of treatment this condition may clear up. Another type of acute cases is noted where infection results. In these cases we have added the delirium of infection. In the confused cases (properly classed as infective exhaustion types) the differentiation is made difficult, at times, by the fact

that the exhaustion symptoms, "the brain fag," may overshadow true organic symptoms.

Many traumatic cases find their way into the insane hospitals, some of which, if properly recognized, would have been better off under the surgeon's care at home. I have, in my experience, met with many such cases; cases which emphasize the care necessary, immediate observation, as mentioned by Drs. Hamill and Eustace. In this neighborhood we see a good many traumatic brain and cord cases occurring in coal miners and also among farmers. I recall three cases presenting symptoms similar in part, at least, to the case here mentioned.

One, a coal miner, while at work in a sitting posture, was struck in the cervical region by dislodged coal. The symptoms, as I now recall, were slow in disappearing but eventually cleared up excepting a residual palsy of the right arm.

Another case (seen with Dr. C. E. Black of Jacksonville), a farmer, injured also in the cervical region, by being struck while riding on a load of hay, as he entered the doorway of his barn. He had "ducked" his head expecting to clear the passage, but a jolt from the front wheels threw him in contact with the lintel, causing fracture and subsequent palsy.

Not infrequently we see cases of men falling from wagons, hay lofts, etc. In falling, the head is usually flexed and consequent cervical injury results. A farmer fell from his wagon, the hub of the wheel being covered with mud; he slipped, struck the ground on his head. He died from hemorrhage into the cord.

My experience in the use of spinal puncture has been limited in a therapeutic way to meningitis. I dare say it is of value in traumatic cases when done early, and of special value in differential diagnosis.

The remote cases present symptoms of "brain fag," viz.: inability to concentrate attention; confusion in memory; exhaustion on exertion; irritability; insomnia and modified dream states, etc. Hysteria is to be considered and carefully differentiated, keeping in mind the fact that where palsy occurs it may simulate or at least be analogous to organic palsy.

Convalescence from mental disorder following traumatism is slow and in some cases deterioration results where lacerations have occurred or where vascular lesions have been extensive or localized in special regions. Differentiation from general paralysis of the insane is to be borne in mind in such cases.

The perversions of character are worthy of note as an aftermath of traumatism of the brain.

Dr. Carl Beck, Chicago: The kind of cases Dr. Moyer mentioned are almost of the same nature of the cases that we see in the hospital. We ask ourselves the important question: Is it necessary to interfere or not? Is an operation necessary or not? Here, of course, the neurologist can decide a great deal, but not all. The question is, Can you find something in the brain or within the skull for which the surgeon can do something? He can stop the hemorrhage or remove a portion of the bone that is depressed. Those are the two main indications for consideration. But often we cannot determine whether operation is the treatment to apply except by opening the cranial cavity. I follow the rule that if the symptoms increase, and that is the point of great importance, if the increase seems to indicate there is hemorrhage or a pressing blood-clot interference is necessary. The second point is, the interference should be as exhaustive as possible; not only trephining the skull because that alone does not do any good. You have to go within the skull and make an exhaustive examination from the inside and find the vessel that is bleeding, find the depressed bone and remove it. Only by an exhaustive operation can one expect a result.

Dr. Eustace (closing the discussion on his part): In answer to the remarks made by Dr. Moyer as to cases of scalp wounds and skull fractures coming under his observation in the hospital, I have but few words to say. Dr. Moyer states that surgical interference is never made without a distinct indication.

I firmly believe that in all cases of scalp wounds in which the violence necessary to produce them was sufficient to cause hemorrhage within the skull, we are justified to go in and explore the cranium.

We do no harm whatever to the patient and many times find evidence of pathology which would have been overlooked in the earlier stages but would have made itself known at a later time with symptoms of depression.

In regard to Dr. Beck's remarks about exploratory incision in these cases, Dr. Dudley P. Allen tells us that when there are symptoms of intracranial hemorrhage present, if you explore one side of the skull and find no pathology you are certainly justified in exploring the opposite side.

In several of the cases which Dr. Allen reports it was not until the second exploration was made that the pathology was found.

Dr. Sippy has mentioned that often when spinal puncture is made with intracranial pressure the medulla is forced down against the foramen magnum and cardiac and respiratory symptoms follow. This, I believe, is due to the force of gravity and may be overcome by placing the patient in a mild Trendelenberg position. I might also emphasize the importance of watching closely the pulse and respiratory rate.

Dr. Hamill (closing the discussion): I would like to speak briefly of the late mental symptoms. There were attacks in which there was apparently an epileptoid condition present. After the second or third of these attacks, I put the man on small doses of sodium bromid and he has had no attacks since. If this is an affair of concussion and not hemorrhage, the mental derangement, considered from the standpoint of the pathology, may be due to the after effect of the concussion, acting in a measure psychogenetically. The ready control of the attacks by small doses of sodium bromid would seem to bear out this opinion.

COMBINATION OPERATIONS BETWEEN GENERAL SURGEON AND OTOLARYNGOLOGIST *

JOSEPH C. BECK, M.D.
CHICAGO

From a very practical point of view, I believe this subject to be of considerable importance to the general surgeon, otolaryngologist and the patient. In considering combination operations as indicated by the title of this paper, I have divided them arbitrarily into several groups, as those wherein both the operations *must* be performed at the same time, those which *should* be combined and those in which there is a choice, there often being even a counter-indication against such procedure. My conclusions in regard to this matter of two or more operations being performed at the same time are based on the study and personal observation on a fairly large material in the past seventeen years. In order to be as brief, specific and practical as possible, I believe it will be best if I cite a few cases which shall bring out the necessary important points. After all, it is with the hope of eliciting a discussion that I am bringing this subject before this section.

Example of operations that must be performed at the same time.

CASE 1.—Mr. G., aged 53 years, with a negative previous history, contracted during the severe winter weather an acute violent rhinitis of the influenzal type. This became rapidly complicated by a severe acute otitis media and this very

* Read at the Sixty-Second Annual Meeting of the Illinois State Medical Society, at Springfield, May, 1912.

soon by acute mastoiditis. It was the left mastoid that was involved. About the same time the patient developed severe pains in his back and on the right side, with profuse bleeding from this side of the kidney. He was examined by Dr. Carl Beck who made a diagnosis of hypernephroma. This bleeding was uncontrollable, in fact took on an alarming increase as did also the progressive destruction of his mastoid. He had several chilly sensations and the differential blood count showed quite an increase in the polymorphonuclear leukocytes. This made me apprehensive of a septic sinus thrombosis. The indication for immediate interference was very plain, it only remained to decide whether the patient could stand two anesthetics and which operation should be performed first. The end of the argument was that both operations had to be done the same time and nitrous oxid-oxygen anesthesia was decided upon. I may state that if the kidney operation could have been delayed for a time, the mastoid operation could have been performed under local infiltration anesthesia.

It was therefore decided upon to do the combined operation, mastoidectomy and nephrectomy. As mentioned before, it was the right kidney and left mastoid that was involved, which proved to be another stumbling block in the operation. It was necessary for me to practically get on the floor and operate in a very uncomfortable and awkward position, since the patient was placed upon his left side so that the kidney operation could properly be performed. It was the use of the electric drill that made it possible to perform the mastoid operation with comparative ease and rapidity. The electric head light was also indispensable. The patient made an uneventful recovery from both operations.

An example of the second group of combination operation is shown by the following cases:

CASE 2.—L. M., aged 5 years, has large tonsils and adenoids, also a very firm adherent long foreskin. The indications here are plain, to do a tonsillectomy and adenectomy as well as a circumcision.

CASE 3.—J. N., aged 11 years, has tonsil and adenoid disease and a hypospadias. Here too, the tonsils and adenoids are to be removed as well as a plastic on the urethra.

CASE 4.—Mr. L. B., aged 29 years, has chronic infection of his tonsils with periodical attacks of quinsy, also a large cystic growth on the dorsal surface of his foot. The indications are to remove both these pathologic conditions.

A large number of similar conditions have come under my personal observation as they no doubt do to most men, and there is perhaps no reason for discussion, yet it is well to bring out the point that the one anesthetic and the saving of time from business as well as the probable saving of hospital expenses, play an important rôle in encouraging the combination of such operations as to remove both pathologic conditions at the same time.

The third group of combination operations is by far the most important for discussion. These are the cases of so-called operations of choice. I refer particularly to the two structures that have had a great deal of attention in the past ten years, claims being made that many pathologic changes in the body are liable to ensue from their retention within the body and that every one would be better off without them than with them. These are the chronic infected vermiform appendix and the chronic lacunar tonsils especially of the adult. The question often asked is, that while removing the appendix why not also the tonsils at the same sitting? Speaking from experience in a fair number of such cases, I would say

that it should not be done. Not that I have any untoward result to report, but one operation may mask the symptoms of the other, and no clear course of the operation can be followed. Again either one of the operations is severe enough without adding more pain, shock or discomfort to the patient. I had one instance in which, owing to the retching from the abdominal operation, the patient kept on oozing from the tonsillar wound much longer than he ordinarily would have from the tonsil operation alone, and this is no small matter, because the loss of blood may retard the healing of the appendix wound. In cases of operations on the chest, as empyema, etc., the tonsil operation should not be done, because such patients frequently cough and keep up the bleeding.

The last group of combination operations are those in which there is a question whether they are such, since in the past few years the otolaryngologist has extended his surgical sphere. I have reference to regional operations about the head and neck, as glands of the neck, tumors, external nose operations, operations on the jaws. Many a time there is required work in as well as outside of the cavities. I have long held and expressed myself accordingly, that as modern otolaryngologic surgeons, the work is to be performed by himself, and the only question is whether in one or more sittings. There cannot be made any rule, since each case is a law unto itself, yet a few examples may be mentioned. In the cases of external plastic surgery of the nose, there is frequently intranasal work necessary, and that can be done in one sitting; the same is true in palate and throat operations, such as adenoids and cleft palate. In regard to operations on the neck, I desire to warn against the practice of doing, for instance, a tonsillectomy and removal of glands more than possibly opening a broken-down mass or removing a gland for histologic examination. The radical removal of glands at the same time or even too soon after the removal of the tonsil, can and has led to necrosis and suppuration, with protracted recovery. This is very likely due to the marked destruction and obliteration of the vessels, thus reducing the vitality of the tissue and retarding repair, since the circulation is not good.

In regard to thyroidectomy and tonsillectomy, I wish to express the same views based on personal observation. I have seen a case in consultation where this had been done; this patient was ill for months after operation, although the work was performed by skillful operators.

One of the worst results from cases of combination operation that I have even seen was within the accepted field of an otolaryngologist, namely, an operation for acute mastoiditis, tonsil and adenoids. The septicemia in this case was very marked and neither the tonsil nor the mastoid wound healed well, and the little patient was very ill; whereas either one of the operations performed at different times would have very likely not hurt him at all.

We can, therefore, conclude that there are:

1. Distinct indications for combination operation, wherein both *must* be performed at the same time.

2. Distinct indications for combined operation wherein both *can* or *should* be performed at the same time.

3. Distinct *contra-indications* for combined operation, wherein there are pathologic conditions in more than one place and requiring surgical intervention.

Combination of otolaryngologist and gynecologist both in operation and diagnosis has occurred in my practice several times, and I wish to mention two interesting facts in this connection.

Dr. Rudolph Holmes referred to me a young woman, aged 21, who had diseased tonsils with considerable anemia, and also a history of never having menstruated. While I had the patient under general anesthesia, Dr. Holmes was enabled to make a thorough gynecologic examination to find out the possible cause for the amenorrhea.

In several cases of marked endometritis, in which the attending man found the indication to do a currettage, etc., and also requiring the removal of the tonsils for chronic tonsillitis, I have made the positive observation that the bleeding from the tonsils was much less in this combined operation than ordinarily from simply a tonsillectomy. It is, of course, well known the interdependence of the generative organs and upper respiratory tract as far as the vasomotor systems are concerned and that may play a rôle in this phenomenon.

2551 North Clark Street.

DISCUSSION

Dr. W. L. Ballenger, Chicago: Mr. Chairman: I do not know that I am qualified to discuss this paper. I was not able to follow out with clear thought just what the doctor was trying to tell us, unless it be that under certain conditions abdominal operations and throat operations or nasal operations, or ear operations, that it might—especially of the throat—be inadvisable to operate because the patient's coughing might interfere with the abdominal wound, etc., which is very well taken. I have personally operated on the mastoid and adenoids at the same sitting a number of times and have never seen the unfavorable results described in the doctor's case. So it had not occurred to me it was bad practice; I thought it was good practice and always so recommended.

It occurred to me also in the case cited if you operated on the adenoids and let the mastoid alone it might have gotten well. In young children with mastoiditis for months, not yet fully developed, I am sure that the adenoid and tonsil operation, or adenoid alone, would often result in chronic or subacute otorrhea, so perhaps it might be well in young children particularly to resort to the tonsil and adenoid operations and wait and see if the mastoid would not get well of itself. I have seen adults upon whom I operated refuse to get well after a radical mastoid operation. The doctor here saw one of my cases of that type and I think many of the adult cases of marked mastoiditis would possibly get well if you removed the adenoids and not do a mastoid at all.

I have not had much experience in operating with other surgeons doing a combined operation, and am unable to speak with any degree of intelligence on the subject.

Dr. Otto Stein, Chicago: I think we all recognize the advisability of limiting the amount of anesthesia in operating on patients and where it is possible, I think to perform two operations that will not interfere in any way with the operators or the length of time of the operation and the length of time of the anesthesia where they are absolutely essential to be done. I think it probably well to do so. I personally have not had any experience with other surgeons. I feel the same as Dr. Ballenger has expressed himself that many of these cases where there are two diseases present, for instance pharyngeal tonsils and ear symptoms, or diseased tonsils or nasal sinus disease in a person with a suppurating

ear or some remote disturbance of the lower respiratory tract, as an asthmatic condition, or ulcerative condition of the vocal cords, that frequently removing the one source will correct the other condition; thus removing adenoids or cleaning out accessory sinus disease will obviate any necessity for a mastoid operation. Of course, that is away from the subject, but it is a point that I think ought to be considered in connection with this paper.

Dr. Richard J. Tivnen: I was very much interested in Dr. Beck's paper. It is quite a new subject and one that deserves a considerable amount of reflection. We are frequently brought face to face with the problem and asked by our patients if we cannot operate with the general surgeon and make it one anesthesia, and one operation, and one period of invalidism. I believe we ought to be rather cautious in our willingness to consent to the wishes of the patient in this regard. There is already an altogether too prevalent opinion among the people about the so-called trivial side of quite a number of our operations—tonsil, adenoid, submucous operations, etc. If we encourage our patients in this impression it will not be long before we are placed in a very embarrassing position. I would, therefore, like to simply make the statement that I believe we ought to insist that the responsibilities our operative work imposes be not under-estimated, that we be not too willing to occupy a secondary position and that our cases be surrounded with the same safeguards as are accorded those of the general surgeon.

I very much enjoyed Dr. Beck's paper.

Dr. Jos. Beck (closing the discussion): My purpose in bringing this paper here was to hear the experiences of men who are called upon to work with the general surgeon as I am frequently asked to do when there is not much chance to refuse. It is not a question of "if I am going to do it with the general surgeon," but I am told that I will be expected to do it, and that settles it. I have objected and often it has done no good, so I have had quite an experience with the general surgeon.

My point was not that the operation on the throat would cause coughing and disturb the abdominal wound, but that the patients with abdominal operations frequently have retching and nausea which irritate the throat wound. That was my point; and also the loss of blood from the tonsil operation interferes with the general healing of the wound.

This point of removing the probable cause, as adenoids and tonsils, and letting the mastoid or other operations on the ear alone, of course, was not mentioned in my paper.

Dr. Tivnen raised the point about standing on the same merits as the general surgeon and so on. I find that the general surgeon will do his operation, and the nose and throat man would have to wait until his chance came and hurry through, and the main trouble was that the patient was not properly anesthetized, either too deeply under or has already come out. With very few exceptions should we combine operations of choice.

SOME PLEASURES OF THE COUNTY SECRETARY *

S. W. WEIR, M.D.

MARSHALL, ILL.

Mr. President and Gentlemen:—I know each of you is wondering, "What will he say about pleasures, when the county secretary has so many troubles?" Therefore, from necessity and not from choice, what I have to say will not worry you long.

When thinking of the pleasures of the county secretary, they seem rather obscure, just like the gardener, who put his seeds into the ground

* Read at the Secretaries' Conference, Springfield, Ill., May 21, 1912.

the day before a big rain and, on reading next day that a frost was predicted, went to look at his garden and found it all under water. After reflecting a few moments he said: "Well, I guess the frost will not get them anyway." So it is with the secretary. If he goes ahead and does his duty, we can look through the mist of troubles to the pleasures ahead.

The doctors, at different places over the county, have most of the pleasures. All that the secretary has to do is to furnish material for each one to work with, keep them preparing papers, acting on committees, and most important of all, attending the county medical meetings. Then the secretary has the pleasure of seeing his society grow scientifically, numerically and get more enthusiasm.

To illustrate: During the year 1910, our society met quarterly and three of those meetings were held at the county seat and our largest attendance was 8, smallest attendance 3, average attendance 5, and during the year 1911 we met quarterly and at four different towns and our largest attendance was 15, which was at our last meeting, smallest attendance 9, and average attendance 12. At the beginning of 1910, we had fourteen members out of a possible 28, while at the first of 1912, we had 22 members out of a possible 27. This gain is attributed partially to the fact that we met at different places over the country, arranging to meet at places difficult to reach, so as to go in autos when the roads are good, and to other places on the train. Thus, by going each time and saying, "come on with us doctor," some have become interested, and if we can get as many more interested during the next year, we will have the pleasure of having every practicing physician in the county a member of our county medical society.

Sometimes, there is "more pleasure in pursuit than in possession." At present, we are still in pursuit, trying to enlist every physician in the county in the society. During the coming year, instead of meeting quarterly, we expect to meet every other month and in more places than we did the past year; also have arranged some social meetings, where we will have eats, that get very near (and dear) to some physicians, as well as a business meeting, where we expect to discuss fees, fee bills, collections and investments. This also gets close to some of our doctors.

It is a pleasure of the secretary to have willing counselors, to assist in planning the affairs of the society, so as to lead non-members to see that *booming* the *society* is to their own *personal gain*, and a *duty* that *they owe* to *themselves* and the *profession*.

One of the pleasures of the secretary is that he (to a certain degree) becomes personally acquainted with every doctor in the county, whether a member of the society or not, for he writes them frequently and converses with them at some time during the year. Also when anything of special importance comes before other county societies, the secretary has the pleasure of learning it first and imparting such information to the other physicians of the county.

The secretary comes into closer contact with every physician in his county than any other officer of the society, and, by getting an idea now

and then from each one, casting aside the worthless, coalescing the good and continuing to grow from month to month and year to year, he will finally attain that high state of perfection which we all hope to attain. Just like a small rock in a muscle-shell by continually rolling around, casting off the roughness and worthless parts, adding to the luster and brilliancy of itself; finally becomes a *pearl*. Very few of *us* ever attain this position.

In our county society, during the last several years at the annual meetings, there has been a program committee appointed and the secretary is one of them, who has to worry and ask doctor after doctor for a paper at the different meetings for the coming year, usually taking from two to three months to get a program arranged. But this year we planned three sets of meeting places, subjects to be discussed at each place and physicians to write on each subject. These suggestions were as follows: First, to meet every month; second, to meet every other month; third, to meet quarterly. I inclosed those suggestions, with the notice of the annual meeting, so that if any physician had objections to writing on the subject assigned, he could appear at the annual meeting to defend himself. As a result, we had the pleasure of a larger attendance than usual, *no objections to writing papers* and, when the meeting was over, our program was completed for the year, with the meeting places arranged so that half of the meetings we can go to in autos and the other half on the train.

"Variety is the spice of life" and conditions are different in each county; therefore, each county secretary, to get the most pleasure out of his work, must adapt himself to the circumstances. Our society seems to do best by arranging programs, so that each member will be the main essayist, at least once in two or three years and act on some committee or hold an office in the society between times. Also by arranging the meetings so that some of them can be attended in autos, all meetings arranged as convenient as possible for the majority of members. Another important part is to arrange programs so as to mix social and business affairs with the scientific work, also enlist every member of the society as a helper if possible.

THE COUNTY SOCIETY BULLETIN*

W. H. WATTERSON, M.D.

WAUKEGAN, ILL.

The inspiration resulting from Dr. E. W. Fiegenbaum at last year's state meeting and his most excellent little paper, "The Madison County Doctor," has caused many other societies to make effort along this line, notably the Montgomery, the Champaign and Lake County bulletins. There may have been others, but their issues have not come to my desk. The physicians of the counties outside of Cook County do not come in as close contact with each other as they should. I doubt if this is true

* Read before the Secretaries' Conference, at Springfield, May 21, 1912.

even in Cook County. Therefore, any means of bringing the physicians in closer relation to each other is of great value to the medical welfare of any county society. I have observed from our own bulletin and from that of other counties that we all still look to the mother bulletin, that of Madison County and that the good work of the Madison County secretary is being copied by all the other journals. Articles therein have united the physicians and made a fraternal band much stronger than ever existed before. Such articles as "Dr. McCormack's Oath," "Which Group are You In," "Loyalty" and "Our Creed," all of which appeared originally in the *Madison County Doctor* have been copied by other bulletins to the great benefit of fraternal feeling in every county now publishing a bulletin.

We are peculiar individuals, in that we avoid the press. Nothing is said of our work, of our papers, or of other happenings which would bring physicians' names in the public press for fear of criticism of our fellow physicians. Whether this is carried to the extreme or not I am not ready to discuss. However, it is only natural that some recognition of the physicians' doings should be made to their fellow physicians, and the only means we have throughout the counties is by way of the county society bulletin. I doubt if there is another pamphlet that comes to the table of the average physician in any county now publishing a bulletin that is read more thoroughly and with greater interest than the county society bulletin. It is natural that we should take interest in those things which concern ourselves; for our own betterment, for our better relation with each other and the public at large. Therefore the county society bulletin has earned a place in the county society which can never be displaced. I recommend it to every secretary to take home to your society. First, try it out. Pay a little money out of your own pocket, if necessary, for the first and second issues. Thereafter I assure you as one who has tried it that there will be no difficulty in continuing your little paper in your community, and that its results and its influence will be for good that could not be accomplished in any other way. You may say "our society is dead." "We are not doing much." Nothing will help to build it up and make it more alive than to publish a bulletin. In this bulletin, not only you, but any member of the society may express his opinion on matters of relation to fellow physicians as our duty to each other fraternally, public health, advertising and the prevention of disease, your individual experiences with some new remedy, and best of all, the reports of meetings and some strong points along the line of bringing the physicians *in closer touch with each other.*

I would like to ask of the secretaries of those societies which have tried the publication of a bulletin in their separate counties whether or not they would be willing at this writing to do away with their bulletin and the influence that the bulletin has in keeping their society in good condition. I believe I can answer that, but trust that following this paper there will be discussion by the secretaries who publish a bulletin, and I am sure that not one of them will be willing to give up the bulletin. As to means of paying for same. A small increase in the county dues; some small advertisement, or, as is done in Madison County,

two hospitals are now supporting their bulletin by a one-page advertisement. The Secretary, or some one delegated by him, should publish the bulletin and he should receive data and articles from any of his fellow physicians. Have an editing committee to assist him; and, if too busy, turn over the entire paper some months to some member of the editing committee. He may have a hobby which he cannot let loose of and some other member of the committee may have another hobby that he would like to mention. Then let him, for after all, a man without a hobby never accomplished anything.

Then though I cannot be with you this year, I send this message: "Try the bulletin for your society if you want to make it a better society than it is now."

MY NEW YEAR'S PHILOSOPHY

Of nineteen twelve here is the end,
And still I have in mind a vision fine,
A god of love is mine,
And human-kind a friend.

A score or more of failures glare
Like beasts of prey to snatch away content—
But I shall not lament
What's done, if done for fair.

For this I also know full well,
Ne'er saved or certified by vain regret
Was spilled milk, as yet
And vain regret is Hell.

On temples brown the silvering loom
Of Time doth weave a record web, I ween,
Of passing years, unseen
And silent as the tomb.

But what care I at all
With dearest pal and children at my side
And gold enough beside
And roof to cover all?

With band of steel and heart of love
And brain and eye and conscience fairly clear,
'Tis good to live, I fear
Not Death, 'tis life I love.

Then hail! The young year's vim and dash
That beckon all to win anew the race,
The records good to face
And precedents to smash.

—ARTHUR M. CORWIN, M.D. CHICAGO.

ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF THE ILLINOIS STATE MEDICAL SOCIETY

GENERAL OFFICERS 1912-13

PRESIDENT - - - - - L. H. A. NICKERSON, QUINCY
PRESIDENT-ELECT - - CHARLES J. WHALEN, CHICAGO
FIRST VICE-PRESIDENT - - SAMUEL E. MUNSON, SPRINGFIELD
SECOND VICE-PRESIDENT - WATSON H. CURTIS, WILMINGTON
TREASURER - - - - - - A. J. MARKLEY, BELVIDERE
SECRETARY - - - - - EDMUND W. WEIS, OTTAWA
(Ex-officio Clerk of the Council.)
EDITOR - - - - - GEORGE N. KREIDER, SPRINGFIELD
522 Capitol Avenue.
ASSISTANT EDITOR - - GEORGE EDWIN BAXTER, CHICAGO
4603 Evanston Avenue.

THE COUNCIL

J. H. STEALY, FREEPORT. — J. WHITEFIELD SMITH, BLOOMINGTON
J. A. MARSHALL, PONTIAC. — CARL E. BLACK, JACKSONVILLE.
CLYDE D. PENCE, CHICAGO. — J. Q. ROANE, CARLYLE.
J. F. PERCY, GALESBURG. — E. B. COOLEY, DANVILLE.
FRANK C. SIBLEY, CARMI.

JANUARY, 1913

MODERN STATE BOARD OF HEALTH

Doctor, have you written to Governor-elect Dunne asking him to appoint a real modern State Board of Health, and a secretary who is worthy of the confidence and respect of the best people in the state? If you have not yet joined in this crusade get busy at once. A large number have already made this matter plain to Mr. Dunne. At least 90 per cent. of the profession are in favor of a change and should not be backward in making the fact plain.

THE PANAMA TRIP

The proposed trip to Panama mentioned in our last issue, has appealed to a great many of our members and it is probable that at least one hundred will take advantage of this last opportunity to see the greatest engineering and sanitary feat of modern times. The excursion is dated to leave about March 1, sailing from Key West on the new Evangeline of 5,600 tons, which carries no freight and is clean and speedy. Key West is the nearest point in the Union to Colon, making the sea voyage nearly three days less going and coming than from New Orleans. A circular letter giving full details of the trip will be mailed by the Travel Service Bureau of St. Louis to every member of the society in a few days. Every member of the society should consider this matter and if possible make the trip. We call attention to Dr. W. H. C. Smith's letter in our correspondence columns.

PANAMA TOUR FOR MEMBERS OF ILLINOIS MEDICAL SOCIETY AND OTHER PHYSICIANS AND THEIR FAMILIES AND FRIENDS, VIA FLORIDA, JAMAICA AND CUBA, IN MARCH

Arrangements have been completed for the Panama trip for members of the Illinois State Medical Society and other physicians and their families and friends, which was mentioned in the December issue of the JOURNAL. An advertisement of the trip appears in the advertising pages of this issue, and reservations may be made or further information had through Dr. Geo. N. Kreider, editor, ILLINOIS MEDICAL JOURNAL, 522 Capitol Avenue, Springfield, Ill., or the Travel Service Bureau, 922-23 Central National Bank Building, St. Louis.

The tour will be managed by the Travel Service Bureau, which organization had charge of the St. Louis Business Men's League Panama trip last year, and will have charge of a trip to the Isthmus for the same organization again this year, as well as one for the Memphis Business Men's Club. The service of this company consists in furnishing Pullman, dining car, steamer and other accommodations, and in putting a tour manager, familiar with conditions in Panama, in charge of the business details. The company is highly recommended by the St. Louis Business Men's League and others.

Reservations for seventy-five persons are being held for the Illinois Medical Society party, and inquiries already received indicate that all of them will be taken. If so, a special train will be operated from St. Louis, and the party is promised luxurious service. The train will be composed entirely of Pullman sleepers, together with private dining, club, baggage and observation cars. Only members of the party will be carried. If fewer than seventy-five go, accommodations will be on the regular trains to Palm Beach and over the Florida East Coast to Key West, including the famous "sea-going railroad."

High class service is promised the party throughout. Outside staterooms only are reserved on the steamer, and the price of the trip includes the choice of any stateroom. A few suites are charged for extra.

Between thirty and fifty inquiries have been received regarding this trip, and it is advisable for members of the Society who desire to go to book early. Checks for $25 deposit on each ticket desired, made payable to the Travel Service Bureau, may be sent to this office and the best reservation available will be made when the check arrives. Only two persons will be put in a stateroom. Further payments of $100 per ticket will be due February 15, and the balance on or before March 1. Detailed information as to prices and what the tour includes will be found in the advertising pages.

Considerable delay in deciding on this trip has resulted from the effort necessary to get a sufficient number of reservations on one steamer and by a route which would give members of the party an opportunity to see as much as possible on the trip. Further arrangements for the pleasure and comfort of the party in Panama are being made, and while

these are slow — since it takes so long to get mail to and from the Isthmus—they will be completed as rapidly as possible. A representative of the tour will go to Panama in February to look after advance details. Every factor to economize the time of members of the party while they are in Panama and give them an opportunity to see just as much as possible will be utilized, and a special effort will be made to give physicians an opportunity to study hospital, sanitary and other conditions of direct interest to the fraternity.

Any reputable physician, whether a resident of Illinois or any other state, is welcome to become a member of the party. Such persons may recommend their friends to the trip also, and non-physician members of the party will be given the same attention as the physicians, except that special receptions or entertainment features may be included in Panama to which invitations may be extended only to the physicians, and which, as a rule, will have little interest for persons outside the fraternity.

It is stated that most desirable climatic conditions in Panama and an entire absence of storms on the Gulf of Mexico may be expected in March. The steamer will reach Key West, returning, March 15. The stay at Panama is two days, with the same time at Jamaica. Only two hours are spent at Havana, but those who so desire may stay over there, their tickets being good on any P. & O. steamer to Key West, with service daily, except Sunday. Stops may be made at other points, with a cash refund for unused Pullman and dining car coupons.

EPILEPTIC COLONY FOR ILLINOIS

Time after time the people of Illinois have through their chosen representatives expressed the belief that the unfortunate epileptic should be taken care of in a modern way in a state institution. Unfortunately, these same representatives have been playing politics and other games too industriously in the past to bring this matter to a conclusion. We are glad therefore to know that an influential committee of members of our society and citizens, have taken active steps to secure an appropriation for a colony from the next general assembly. We urge our members to give this project the heartiest support. Do not stop until the epileptic is provided for.

CHICAGO MEDICAL SOCIETY EX-PRESIDENTS' BANQUET

Invitations will be sent later to all of the members of the Illinois State and Chicago Medical societies for an informal banquet which is to be given by the Chicago Medical Society to its expresidents on Lincoln's birthday, Wednesday evening, February 12, 1913. The President of the Chicago Medical Society and the Entertainment Committee are planning that this shall be one of the social events in the history of the Society. As an "event" is an impossibility without the ladies, the wives and sweethearts and friends of the members are earnestly requested to accompany them. The tickets are to be $2.50 for each plate. The seats will be

arranged in order of their acceptance so that groups of consecutive members may be kept together, except in the instances where certain members request to be assigned to the same table.

RESOLUTIONS ADOPTED BY THE ROCK ISLAND COUNTY MEDICAL SOCIETY, DEC. 10, 1912

WHEREAS, The University of Illinois has been compelled to close its medical school in the city of Chicago, owing to lack of legislative appropriations for its support, and owing to the fact that it possesses no suitable site or plant for the use of a medical school after the College of Physicians and Surgeons had declined to continue the lease of its plant in said city to the University; and

WHEREAS, Certain parties have undertaken to obtain the stock of the College of Physicians and Surgeons and present the same to the University, thereby securing to the latter the control of an adequate site and plant for its medical work; therefore, be it

Resolved, 1. That the Rock Island County Medical Society earnestly requests the trustees of the University of Illinois to reopen the medical school of the University in the city of Chicago, and that the members of this Society hereby pledge themselves to use every legitimate influence to secure adequate legislative appropriations for the support of the state medical school to the end that the commonwealth of Illinois shall do its share in the support of medical research and education as it now does in the support of agricultural, legal and engineering research and education. 2. That the President of this Society be requested to appoint a committee to cooperate with similar committees from other county associations to present this project to the members of the legislature and urge it upon their attention.

Correspondence

THE MEMBERSHIP OF THE ILLINOIS STATE MEDICAL SOCIETY

To the Editor:—The Medical Society of the State of New York has 7,293 names on its roll. The Medical Society of the State of Pennsylvania has 5,830. The Illinois State Medical Society is third in number of members with 5,708. President Nickerson urges that there is no reason to prevent Illinois leading all state medical associations in numbers. There are approximately 4,500 licensed physicians in the state who are not members of their county medical societies. Half of this number we feel assured are qualified for membership, and that our number can be increased to exceed the membership of the Medical Society of the State of New York without sacrificing standard of qualification. In order to accomplish this desired increase of membership, the Council of the Illinois State Medical Society has entered into an agreement with the American Medical Association to canvass the medical men of the state. Each of

our counties will be visited by an organizer who will solicit membership from the physicians of the county. His activities will be subject to the directions of the officers of the county societies and he should receive the cooperation of these officers in his efforts. The work has already begun and in several of the counties which have been visited, a gratifying return has been made. These returns have been especially pleasing in those counties in which the officers have welcomed the organizer and by their cooperation have helped to make his visit a benefit to the local organization.

Of all men, physicians need most to get together. Those of us who have been active in our medical organization appreciate its benefits most highly. President Nickerson now calls on us to bend every energy to extend these benefits to those who, with reason or without reason, have denied themselves the privilege of uniting with the organized profession.

Let us one and all join with this endeavor to extend membership in the state of Illinois, being assured that as our membership grows, the benefits from our meetings will increase.

E. W. WEIS, Secretary.

INSURANCE OF THE SICK AND INJURED IN GERMANY

In the December issue of *The Journal of the Oklahoma State Medical Association* appears a letter by Dr. Fishman on this subject, which is of particular interest to our readers at this time, and by permission of the editor of that journal we reproduce it herewith.

The German empire exercises a most paternal relationship over its citizens and I guess that's the reason it's so fondly called the Fatherland. It cares for them everlastingly from birth through old age, and provides for the unfortunate, sometimes directly, but more often indirectly, almost as a father does over his children.

From the point of view of a medical man, I found the provisions that the government has established for the care of the sick, injured and the aged of the greatest interest. Being in close contact with the sick, as one sees them in the hospitals and polyclinics (dispensaries) I was at once impressed with the widespread system of sick benefits and insurance that is provided nearly every individual of the poorer and middle classes.

The Imperial Insurance Acts have been in force now for over thirty years and have been so successful that it now provides compulsory protection for nearly all of its working men, as well as employees in nearly all lines, whose incomes are moderate. It was established "in order to preserve internal peace and to foster safety and protection to the Fatherland."

Within the last three months England has established a law on a similar basis, although the Englishman is unwilling to state that it is patterned after the German law.

The Sick Benefit Act provides that every employee whose income is less than 3,000 marks (about $710) a year, be compelled to buy monthly insurance stamps, which may be obtained in every postoffice, and have his

employer sign these stamps after having pasted them in a book, supplied for the purpose. This, of course, is supervised by police regulations, that no one who comes within the law is exempt. Of the cost of these premiums the employer pays two-thirds and the employee the other third. Frequently in case of a housekeeper who employs a servant, the former undertakes to pay the entire premium, which amounts to about one mark (25 cents) per month. Each trade and vocation has its own branch, for example, the stenographers, carpenters, masons, etc. Each has its own organization and the money obtained from the sale of these premium stamps is held in trust by the government.

The committees which have charge of the affairs of these branches are made up of employers and employees, but the latter have a representation of two-thirds of the committee, although they receive the benefits and pay about one-third of the premiums. It is the duty of the employer to see that his workingmen are insured and if they are not provided for, the former is held responsible and is required to pay all expenses in case of illness. The entire system then is essentially established for the interests of the working people; and indeed for the poorer classes, for there are also provisions for the individual who conducts his own business, but whose income is below a certain amount.

In the farming communities the participants include alike the employers and the employees who have mutual interests, but in these cases the affairs of the branch organizations are managed by officers of the state. Besides these, the labor and trade organizations have their private benefit funds just as they do in our own country. The workers in hazardous trades are compelled to provide accident insurance so that they are protected by this means from losses that may occur in case of occupational injury or illness.

The Invalid and Pension Act provides monthly benefits for those who show payments for a certain number of years, and in all cases after the age of 65 or 70 years, depending on his vocation.

In case of an unmarried girl, who marries, a certain amount is returned to her at the time of her wedding, provided she has paid premiums for 200 weeks or more. The widow is also provided for, and a certain amount is received for each child under 15 years of age.

The organization provides medical attention by employing physicians and also pays for the care of patients who are sent to hospitals. Each specialty is well represented on the rolls of the medical attendants. Certain branch organizations have their own hospitals and convalescent houses. The fundamental purpose of the sick benefit provision is not to spend all of their money in the care of the sick, but rather to conserve health by providing proper workingmen's homes, proper food for the children, summer outings, etc. The system is so extensive that the total income for 1910 was nearly 900 million marks, and took care of nearly six million cases, while there is over two and one-half billion marks assets in the trust fund.

Naturally the practicing physician is deprived of a good percentage of people who might have been his patients if these laws were not in effect.

But when one remembers that after all, the poorer people only are provided for, it leaves the physician with a private practice of only the better classes at his disposal. Besides, it must be remembered that we have in the United States about three times as many physicians for the population as there are in Germany, so that the system does not produce as much discomfort to the profession here as it would in America.

C. J. FISHMAN, of Oklahoma City.

Berlin, October 22, 1912.

DETAILS UNDERCHARGES

GREENVILLE, ILL., Dec. 23, 1912.

To the Editor:—I was very much interested in Dr. Allison's article "The Trend of Medicine" in December issue of the JOURNAL. Dr. Allison is right. The medical profession is not what it ought to be. There is a remedy, and that is through and by the county medical societies. Let's have a symposium in the JOURNAL on this subject, "Looking Forward to a Reform Among Physicians in Regard to Fees." I know of a doctor who went seven miles on a confinement case and only charged $5, whereas he should have charged $10, plus mileage beyond three miles. The same doctor goes a distance of seven miles (ordinary sickness) for $3.50, and I've even heard of him going twelve miles for $4.

I know of another doctor who goes ten miles from home (two miles from another doctor) on a confinement case for $10. This same doctor will go eight miles and ten miles for $3.50. Now neither of these doctors are poor either. They both have a practice, but got it largely by undercharging and thus knocking some other doctor out of a fee. It seems to me that doctors ought to see that they are losing time and money by such acts, and also are giving their medical brothers a dirty deal.

The first doctor mentioned should have charged $10 plus mileage for confinement, and $4.50 or $5 for going seven miles (ordinary sickness), and especially when he goes across the street from a brother physician in a little village seven miles distant.

The second doctor should have charged $15 for going ten miles on a confinement case, and $5 instead of $3 and $3.50 for going eight miles. In both cases they could get more.

I charge $3 for going four miles, and the people wonder why I charge $3 for going four miles when other doctors from seven to ten miles away will come for the same price. I would like to see fee bills published that are adhered to, also a discussion of physicians' fees. Too many physicians only charge fifty cents for medicine at office, when they should charge 75 cents and $1. I claim that our knowledge of what they need is worth 50 cents to the patient without any medicine. The medicine ought to be worth from 25 to 50 cents additional. Our medical education cost us from three to five thousand dollars, and we didn't get any hand out either.

O. C. CHURCH, M.D.

REGISTRATION OF VITAL STATISTICS

STANFORD, MONT., Dec. 13, 1912.

To the Editor:—I have just been reading the article by Dr. Henry G. Ohls, and I am going to offer a few suggestions along lines I have never seen mentioned. In the first place, I am opposed to the principle of a fee for registration. We doctors are practicing medicine for the fees we obtain, and when engaged by a patient our duty is to see that everything necessary is done for that patient, and to charge them for the service rendered; and when I am called to attend a confinement case, my duty is not done until I have recorded that birth, and when a patient dies my duty is not done until I have filled out and placed on record the essential facts as required by a death certificate, and when I discover a case of contagious disease my duty is not done until I have properly reported it. But I do believe the state should cooperate by providing blanks in the most convenient form, and pay the postage on these. But this is preliminary. How are we going to be sure of getting these reports? And where is the orginality of my plan? At present a young man graduating from college must secure a license to practice, and having secured that, goes on through life without any further interference so long as he stays in his own state, and does not violate too many criminal laws. But I would abolish this perpetual license, and instead, require the doctor to present his credentials, and if these are satisfactory, issue a license to practice medicine in the state until the first day of February next following, and require him to keep this exposed in the waiting room of his office. I would at the same time provide him with the necessary blanks for all required reports, and stubs attached to each blank permanently bound, and between January 1 and 10 of each year require each physician to make affidavit that the stubs represent each and every birth, death and contagious disease by him attended during the previous year; that the detached blanks have been filed with the proper local authorities as required, and thereupon let the State Registrar issue a new license for one year from February 1 to February 1. You will thus have a complete list at all times of all physicians actively in practice, not an unrevised list, and with a complete list of each physician's work on file; you will stimulate more careful attention on his part, and will be assured of just as complete records as can be obtained.

Yours sincerely,

A. E. MYRICK, M.D.

THE EXCURSION TO PANAMA

Dec. 11, 1912.

To the Editor:—I note in the ILLINOIS MEDICAL JOURNAL the announcement of the Panama excursion, and am delighted to know you are taking the matter up, and hope a full boat load or two will take advantage of the opportunity of going this year, as next year will see the water in and consequently one will lose much of interest in the prodigeous work of organization and operation, both on the side of medical science and mechanical miracles. I hope you can go, for the trip is a most delightful one, full of interest from New Orleans back to New

Orleans, and accommodations on United Fruit Company steamer are not surpassed for comfort anywhere. I have been down twice with Mrs. Smith and took my three boys. The trip will not be complete unless you add the Costa Rican trip up to San Jose. Hope you will make it a success.

Yours truly,

W. H. C. SMITH.

NEW LAW WANTED

PEORIA, ILL., Dec. 28, 1912.

To the Editor:—We have put up with considerable in past years as regards the requirements of applicants to practice medicine in this state, and I think it is about time there was a change.

First of all, all medical schools attempting to teach medicine properly should require of their applicants evidence of a preliminary education, of a diploma from a *registered* high school plus *two years* of *college work* or its equivalent proven only by a *fair* and *rigid examination* by men competent to give such, and these men appointed by the Governor. This above should become a law and take effect not later than January 1, 1914.

We certainly could profitably follow, at least, New York State in their new requirements and abolish those which did not come up to the requirements as to preliminary education and curriculum, and then we would have more than two schools in the state recognized as medical schools, and graduating men that are considered competent enough to practice medicine. Does it not appear to you that at least two of those low-grade medical schools are in partnership, as both have practically the same faculty? No doubt there will be a change of affairs after our new Governor Dunne takes office.

Hoping to hear from you in the JOURNAL, I remain

Yours truly, JOHN WARREN.

NEW REQUIREMENTS FOR TUBERCULAR CASES IN COOK COUNTY INSTITUTIONS

CHICAGO, Dec. 31, 1912.

To the Editor:—On December 30, the Chicago Tuberculosis Institute submitted to the Public Service Committee of the Board of Cook County Commissioners, the following list of requirements to be considered in connection with the care of advanced cases of tuberculosis in the Cook County Institutions — Tuberculosis Department of the Cook County Hospital, Tuberculosis Hospital at Dunning and the Tuberculosis Hospital at Oak Forest.

1. Increased medical service for the tuberculosis patients; at least one resident physician for each seventy-five to one hundred patients.

2. Increased and improved nursing service; at least one nurse for each thirty to forty ambulant cases, and at least one nurse for each fifteen to twenty bed patients; of these nurses at least one for each fifty patients should be a graduate nurse. A sufficient number of attendants.

3. An adequate, well-prepared and well-served dietary of a standard set by recognized authorities in the treatment of tuberculosis.

4. The appointment of a staff of recognized tuberculosis experts to serve without pay who shall advise and cooperate with the Board of County Commissioners in the establishment and maintenance of these standards.

In conformity with the request of the Institute, the Public Service Committee unanimously voted the recommendation to the Board of County Commissioners that the Annual Budget for 1913 should include an appropriation to cover the cost of the improved service.

Sincerely yours,

JAMES MINNICK, Superintendent.

STUDENT VOLUNTEER MOVEMENT FOR FOREIGN MISSIONS

WOMAN PHYSICIAN FOR KOREA

To the Editor:—A Christian woman with medical training is needed in the Canadian Presbyterian Mission, working in the Northeastern part of the Korean Peninsula with headquarters at Jen San, about 135 miles north of Seoul, the capital.

A wonderful Christian opportunity is presented in this section. The population in this one field is greater than that of New Brunswick, Prince Edward Island and Nova Scotia combined. All Canada has over 6,700 physicians—one to every 1,030 people. In this section of Korea there are less than a score of physicians.

Instruction in hygiene in a country that has never learned the very first principles of cleanliness, suggests one large service which a medical missionary can render.

A start has been made in work for unfortunate classes, such as the blind, deaf and dumb, lepers, opium victims and orphans; work which needs to be developed and strengthened.

A WOMAN PHYSICIAN IS NEEDED FOR THE MARY S. ACKERMAN HOYT HOSPITAL AND DISPENSARY FOR WOMEN AND CHILDREN, JHANSI, INDIA

This is a Christian hospital, opened in 1900, two years after a dispensary had been started. In one year more than 10,000 treatments have been given, 530 in-patients cared for, in addition to many visited in the city and district.

Jhansi, a city whose population is 55,724, is situated in nearly the geographical center of India. It is a large military cantonment and civil station, and the headquarters of the Indian Midland Railway Association. Throughout a vast region for hundreds of miles villages are thickly scattered, in very few of which the Gospel has ever been preached. The city and region are full of Mohammedans in addition to the Hindus. There are not more than fifteen foreign Christian missionary workers in the community.

This post requires a woman of thorough medical training, unimpaired physical constitution, good sense, sound judgment, capacity for leadership, a cheerful, hopeful spirit, ability to work pleasantly with others.

Support is provided by the Woman's Union Missionary Society and includes traveling expenses, living quarters and outfit allowance, in addition to the regular missionary salary, which is based on what experience has shown to be necessary to maintain the worker comfortably.

TWO YEARS' INTERNSHIP — GOOD SAMARITAN HOSPITAL, GUANAJUATO, MEXICO

This is a missionary hospital which was started by the Methodist Episcopal Church. Another Christian doctor is needed for the staff.

Guanajuato is a city of 60,000, the capital of the state of the same name. It is located 160 miles northwest of Mexico City. It stands at an altitude of 6,500 feet in a rich silver-mining region. The Mexican Central Railroad passes through the city.

One year's report of the hospital staff shows 339 visits to homes, 4,579 consultations, 24,523 treatments, 52 major and 279 minor surgical operations, medicines furnished 17,587 patients. Fifteen different nationalities were included among those who were treated.

For this internship a man is required who has had a thorough medical education and who is prepared to make his professional knowledge and skill directly subservient to the furtherance of the gospel.

Communications may be addressed to the director of the hospital, Dr. Levi B. Salmans, Good Samaritan Hospital, Guanajuato, Mexico.

TRAINED NURSES FOR CEYLON, TURKEY AND INDIA

Five trained nurses are needed at once in Christian hospitals in Turkey, India and Ceylon, respectively. The work is essentially religious and Christian, and requires women who are in full sympathy with its missionary purpose. While denominational questions are not raised, membership in some Protestant church is expected. Women who have administrative capacity and a gift for training other women in nursing, will find a large opportunity for work that is greatly needed.

The Hospital for Women and Children at Madura, South India, needs a nurse. Last year 519 patients were treated in the hospital; 14,771 in the dispensary; 1,067 of these were Mohammedans, 9,296 Hindus, 4,851 native Christians and 76 Europeans. Sixty-two operations were performed, 139 maternity cases cared for, 438 outside visits made, 40,390 prescriptions written. This work was carried on under the supervision of two physicians. There has never been an efficient American nurse connected with the hospital. In order that native workers may be properly trained, a well-equipped trained nurse is urgently needed now. The Madura Mission is all within the limits of the Madura district of the Madras Presidency and includes a population of 2,573,000 people. Tamil is the language of most of the native people.

The McLeod Hospital, Inuvil, Ceylon, needs one nurse to have entire charge of a training school for nurses and the organization of the nurses' staff of the hospital. This is one of the best hospitals in India and is in

charge of Dr. Isabel N. Curr. The work is practically self-supporting. Last year 1,142 patients were treated in the hospital and 3,205 in the dispensary.

The total population of Ceylon, an island which has about the area of West Virginia, is 3,592,397, largely made up of Buddhists, Hindus and Mohammedans. Five missionary physicians with three missionary hospitals and seven dispensaries constitute the Christian medical assistance available to all these people. Inuvil is in the northern part of the Island in a district the population of which is 177,971. The temperature is fairly equable, the rainfall light.

In the Ceylon Mission of the American Board there are six stations and twenty-three out-stations. Thirteen missionaries carry on medical, educational and evangelical work. Twenty churches with over 2,000 members have been organized. Seventy-five Sunday schools have a membership of 3,976 students.

Anatolia Hospital, at Marsovan, Asiatic Turkey, affiliated with Anatolia College. A new building is under construction, which, when completed, will be one of the finest in Turkey. The hospital staff consists of three doctors, two foreign nurses, one dispenser, a nurses' training class and a force of twenty-five servants and helpers. In 1911 there were 852 in-patients (610 surgical, 242 medical); 3,690 new patients in clinic (804 operations). Of these, 367 were Armenians, 279 Turks, 176 Greeks. Marsovan is one of the stations in the Western Turkey Mission, of the American Board. To meet the needs of not less than 11,000,000 people, there are only seven hospitals and dispensaries.

The Hospital at Talas, Cesarea (Asia Minor), needs a nurse, to be associated with Miss Phelps. Last year 10,000 cases were treated. Talas is also in the Western Turkey Mission.

Azariah Smith Hospital, at Aintab, in the Central Turkey Mission, needs a nurse to be associated with Miss Bewer. This is one of the greatest missionary hospital plants in the world. One year over 46,000 cases were treated. The hospital is connected with the Central Turkey College and has a staff of eight workers. In 1911, ward patients to the number of 223 were treated; 353 major and 500 minor operations performed; 40,445 dispensary treatments given. There are forty-two beds and two cribs in the hospital.

The Central Turkey Mission is serving these 1,586,000 people. Six stations and fifty-two out-stations have been established with a total force of thirty-five workers. Thirty-five churches have been organized with a membership of 6,542. Twenty-eight Sunday schools have a membership of 12,164. Reinforcements are urgently required.

The missionary hospital has introduced the profession of nursing to women in the East. The conservatism of Turkey has stood in the way of direct approach, on the part of male physicians at least, to the women of the country. The government has prevented the sending in of women physicians. The tremendous need of training native nurses presents a remarkable opportunity for service. The need in India is no less urgent and important where social customs and caste isolate the women from uplifting influences and medical attention.

The widespread influence of these hospitals is indicated by the fact that in Turkey the patients attending the mission hospitals have come from 1,200 different towns and villages, in many of which the Gospel has never been preached. There are many cases where the patient, returning, has reported his experience in the hospital in a way to arouse permanent interest.

All appointments are to be made by the American Board of Commissioners for Foreign Missions, which provides traveling expenses and living quarters in addition to the regular missionary salary.

Inquiries may be addressed to Mr. Wilbert B. Smith, 125 East 27th Street, New York City.

A SUGGESTION — TEMPORARY QUARANTINE

PARIS, ILL., Dec. 28, 1912.

To the Editor:—May I offer a suggestion to physicians and health boards in Illinois? The contagious sore throats are becoming most vexatious to diagnosticians, especially in certain localities. In Paris, we have been passing through a most baffling epidemic of tonsillitis. In the majority of cases the Klebs-Loeffler bacillus is absent. The streptococcus is often absent. Some of these throats contain no bacteria outside a few mouth germs. When the epithelial cells are pushed off, a stubby diplobacillus may often be found in their cytoplasm; but it may be said that the bacteriological examinations are often unsatisfactory. In the severe forms the disease may resemble diphtheria and the bedside diagnosis is, therefore, rarely conclusive.

These sore throats are usually highly contagious; and while usually mild, have often been severe and even fatal even though other members of the same family quickly recovered. In some cases unjust quarantines have apparently been imposed, while by others freed from restraint, the disease has been spread. This community (and indeed several others, so I have been told) has been "worked up" over the matter, and much censure has been placed on the heads of physicians who have attempted to handle them conscientiously.

I would propose that while we attempt to diagnosticate these cases as accurately as possible, that in view of our lack of precise knowledge we impose a temporary quarantine on each suspicious case of sore throat, and that this be removed after the disease has run its course, the throat has been sprayed with antiseptic solutions and the sick room has been sterilized (providing bacteriological examinations do not show the presence of the diphtheria bacillus, in such case the quarantine should be extended).

The following wording for these quarantine cards is suggested:

Temporary Quarantine
SUSPICIOUS TONSILLITIS
Probably Contagious

Yours truly, B. G. R. WILLIAMS.

COUNTY AND DISTRICT SOCIETIES

ADAMS COUNTY

The regular meeting of the Adams County Medical Society was held December 9 at Quincy, Ill., when the annual election of officers was held, after which Dr. H. T. Duffield of Pittsfield, secretary of the Pike County Medical Society, read an interesting paper on the subject, "How to Resuscitate the New Born Child." The session was harmonious and the election seemed to please all the members present, and resulted as follows: president, Ray Mercer, Loraine; first vice-president, Kirk Shawgo; second vice-president, C. R. Bates; secretary, Elizabeth Ball; treasurer, C. F. Ericson; board of trustees, C. D. Center; board of censors, J. H. Blomer; delegate, R. J. Christie, all of Quincy.

The board of trustees now consists of Drs. Center, Ericson and Pittman; the board of censors of Drs. D. M. Knapp, F. T. Brenner and J. H. Blomer. Dr. C. A. Wells was appointed as chairman of the committee for the promotion of the medical department at the state university.

BOND AND MONTGOMERY COUNTIES

Forty-four physicians from Bond and Montgomery counties devoured 65 quails at a dinner given by Dr. W. A. Allen at his beautiful country home at Donnellson on the evening of November 21. The physicians who attended from Bond County were: Drs. B. F. Coop, W. T. Easley, A. M. Keith, E. S. Clark and J. C. Wilson of Greenville; O. C. Church of Woburn; Drs. D. T. Brown, E. A. Glasgow and J. S. Poindexter of Mulberry Grove and J. D. Chittum of Sorento, and the remainder from Montgomery County. Not a physician came behind a horse, all came in automobiles, some from Nokomis, a distance of thirty miles, to attend the dinner.

Dr. Allen gave a personal reminiscence of his recent trip around the world, and Dr. Nicholson of St. Louis told of his experiences in practicing in English, German and French Hospitals, he having recently returned from a trip abroad.

The banquet was suggested as an annual event for the Montgomery society, which held an election of officers at the dinner.

CLARK COUNTY

Society met in Dr. Wilhoit's office at 2 p. m., Dec 12, 1912. Members present, S. C. Bradley, Rowland, Bruce, Johnson, Boyd, Wilhoit, Weir and Lewis. Dr. Doak was a visitor.

Minutes of previous meeting were read and approved.

Dr. R. B. Boyd read the paper of the meeting on "Diseases of the Lungs," discussing bronchopneumonia in detail, etiology, symptomatology, pathology and treatment. He then took up lobar pneumonia in the same manner. Many important points were made on this very timely subject. In the discussion, Dr. Bruce can see but little change in treatment in the past forty years; that anti-inflammatory treatment is proper at first, later, supporting medicines.

Dr. Johnson treats all pneumonia as an infection. Thinks later a serum will be found. At present, he uses sodium salicylate, citing rheumatism treatment as analogous.

Weir spoke of the many grades of bronchopneumonia, ranging from the small and few spots of lung affected producing almost no symptoms to the most desperate cases, where large parts of both lungs are consolidated. Sees some good in all the different methods of treatment, purging and other eliminants, depres-

sants, veratrum, aconite, etc., expectorants, mur. ammonia especially; stimulants, strychnin, digitalis, etc., each treatment to be used in proper cases and in the stage of the disease when it is indicated but deplores the fact that the mortality is about the same now as years ago, though much progress has been made in the treatment of other diseases.

Dr. Doak considers heart failure the usual cause of death in fatal cases. Uses phlebotomy, later stimulants, eliminants, etc.

Bradley stated that much has been learned from the homeopaths in pneumonia and typhoid fever. Both diseases cure themselves if nothing prevents the natural course. He watches the heart; uses atropin in some cases; puts patient on porch to get fresh air, the better in some desperate cases; employs cotton jacket.

Bruce further said he gives quinin, 10 or 15 grains, at once in precongestive stage, or aconite, if congestion is present; late in disease quinin, strychnin and calcium at times 1/10 grain till effect is obtained.

Lewis uses cold sponge for high fever, aspyrin instead of sal. sodium on account of less nausea from it.

Doak has had suppression of urine when using sod. sal. Other members had had no such effect.

From the observations, experiences and opinions presented, one was able to glean many valuable points, helpful in the management and treatment of this very frequent and fatal class of diseases.

Several cases of very high fever were reported and discussed.

Society adjourned. L. J. WEIR, Secretary.

COOK COUNTY

CHICAGO MEDICAL SOCIETY

Regular Meeting, Oct. 16, 1912

A regular meeting of the Chicago Medical Society was held, Oct. 16, 1912, with Dr. Wm. M. Thompson, president of the North Side Branch, in the chair. The program consisted in a symposium on medicolegal topics, as follows:

1. "Why is a Medical Expert?" James J. Barbour, Esq.
2. "The Physician in the Probate Court." Hon. C. S. Cutting, Judge of the Probate Court.
3. "The Physician in the Criminal Court." Hon. Harry Olson, Chief Justice Municipal Court.
4. "Hospital Liability." A. J. Pflaum Esq., Attorney at Law.

DISCUSSION

Dr. O. W. Lewke: In connection with the statement by Judge Olson as to kleptomaniacs and the committing of the crime during the menstrual period, it may interest you to know that in my experience ir the coroner's office, I found that over 70 per cent. of women committing suicide did so during the menstrual period.

Regular Meeting, Oct. 23, 1912

A joint meeting was held with the Mississippi Valley Medical Association, Oct. 23, 1912, with Dr. Jos. M. Patten in the chair, Dr. Frank being ill. After calling the meeting to order, Dr. Patten introduced Dr. Louis Frank, president of the Mississippi Valley Medical Association, and he presided during the remainder of the meeting. The program consisted in the following addresses:

1. Address. Dr. Louis Frank, Louisville, Ky.
2. Address in Medicine. The Stomach from the Standpoint of the General Practitioner, the Specialist and the Surgeon. Dr. Charles G. Stockton, Buffalo, N. Y.
3. Address in Surgery. Biologic Interpretation of Abdominal Pain and Its Surgical Relation. Dr. Geo. W. Crile, Cleveland.

No discussion.

Regular Meeting, Oct. 30, 1912

A regular meeting of the Chicago Medical Society was held, Oct. 30, 1912, with the president, Dr. Jacob Frank, in the chair. The program follows:

1. Epilepsy—Surgical Treatment. A. Augustus O'Neill.
2. Goiter (by invitation). Charles H. Mayo, Rochester, Minn.
3. Present Status of the Surgical Pathology of Goiter (by invitation). William Carpenter McCarthy, Rochester, Minn.

Regular Meeting, Nov. 6, 1912

A regular meeting of the Chicago Medical Society was held Nov. 6, 1912, with the president, Dr. Jacob Frank, in the chair. The program follows:

1. Pulmotor Demonstration. Commonwealth Edison Company.
2. Inhalation Treatment: A New Apparatus. Homer M. Thomas.
3. Tonsillectomy by the Sluder Method. Arthur M. Corwin.

ENGLEWOOD BRANCH CHICAGO MEDICAL SOCIETY

Regular Meeting, Dec. 3, 1912

Another dose of bad weather was handed to us on the evening of our last meeting. Notwithstanding, however, over fifty were present. Those who came were well repaid, for the meeting proved to be full of instruction and highly entertaining. For over an hour Dr. George H. Simmons entertained his audience with a most interesting paper on "What the American Medical Association is Doing." His paper was so pregnant with facts and positive statements of vital interest to all medical men that it will be impossible to give a complete report. Of the things the A. M. A. has accomplished Dr. Simmons believes that the work on medical education is perhaps the most important. He stated that up to 1901 it was not known how many medical colleges there were in the United States, that there were too many and some of very poor standing. In the spring of 1901 the first Educational Number of the *Journal* came out, publishing the list of colleges and their graduates. In 1903 efforts were directed toward gathering State Board matter and in 1904 the first State Board Number was published. Also at this time, 1904, the Council on Medical Education was created and inspection of colleges systematically done. When the council was formed there were 166 colleges as compared to 116 now. There has also been a marked decrease in the number of students. One is appalled at the statement that there are now twenty states who cannot refuse to recognize any medical college diploma. The work of obtaining information of graduation, etc., of all doctors was undertaken with the result that now the A. M. A. possesses a card index system giving full information of every graduate since 1875. The work done along this line has had a powerful influence on medical education and has stimulated State Boards to better methods.

The Council on Pharmacy and Chemistry founded seven years ago has resulted in marked changes in patent medicine write ups in various medical journals. Doctor's testimonials were common seven years ago. There is a card index of testimonials of over 10,000 doctors, the filing of which took considerable time in the past but now the average addition is about one weekly. Work has been and is being done on the study of the action of drugs with a view of obtaining definite facts; also on scientific research work on various diseases as Rocky Mountain fever, etc. The work done by the Council on Pharmacy and Chemistry has had a wholesome effect upon the manufacturer and the patent medicine propaganda has had a most beneficial effect on the layman. The exposition of the various patent medicine frauds has been so thorough and the proofs so positive that not one of those exposed has ever filed suit. Almost all of the matter published by various lay publications exposing frauds has been furnished or been obtained as the direct result of the work of the A. M. A.

The Council on Health and Public Instruction is doing a vast amount of good along the lines of preventive medicine; for example the work done regarding blindness resulting from ophthalmia neonatorum. Bulletins on various subjects are sent weekly to over 4,000 newspapers.

Dr. Arthur J. Cramp showed many interesting stereopticon pictures. These pictures are of great educational value, very instructive and were immensely enjoyed. Only a few can be mentioned. Papine, advertised as a preparation to take the place of opium with various fancy claims, was proved to be a solution containing an eighth of a grain of morphin to the dram.

Nature's Creation, advertised as a blood-medicine, their adv. begging poor sufferers not to take potash and mercury but to use nature's harmless remedy, was proved to be a solution containing K. I. This was later advertised as a consumption cure. Their glowing testimonials of how so and so had been cured lost their value when the next picture shows the official death certificate of the individual who gave the testimonial. A striking and pathetic lesson.

The fake concerns advertising as treating all letters as strictly confidential were shown to be utterly devoid of any sense of honor when they sold these "strictly confidential" letters at from $5.00 to $20.00 per thousand.

Fake chemical analyses were shown up, it being proved that for a certain amount fakes can have a chemical analysis to their liking.

Many cartoons relating to public health instruction were shown.

A. G. BOSLER.

CRAWFORD COUNTY

The Crawford County Medical Society met to-day in regular session in the Carnegie Library at 2 p. m., Nov. 14, 1912. The meeting was called to order by the president and the minutes of the preceding meeting were read and adopted. The following members were present: Drs. Firebaugh, Dunham, T. N. Rafferty, Voorheis, Newlin, Price, Kirk, Wilson, Henry, Mitchell, Carlisle, H. N. Rafferty and Lowe.

The Board of Censors reported favorably upon the application of Dr. G. F. Smith of West York to become a member of the Crawford County Medical Society. It was moved, seconded and carried that the report of the Board of Censors be received by the society. After some discussion by the members it was moved and seconded that the vote on the report of the Board of Censors be reconsidered, carried. It was then moved and seconded that the application of Dr. Smith be laid on the table pending further investigation by the Board of Censors; carried.

The scientific program was then taken up. Dr. Davis was absent and had not left his paper with the secretary. Dr. Wilson read a very able and interesting paper, "Intestinal Diseases Among Children," bringing out many valuable and salient points. Moved, seconded and carried that the paper be received by the society for discussion. The discussion was led by Dr. Voorheis, followed by a general discussion of the paper by the various members of the society. Various methods were next discussed for reviving the interest of the members in the society. The plan of holding meetings occasionally in other towns in the county was adopted for trial. Moved, seconded and carried that the next meeting of the society be held in Oblong. Moved, seconded and carried that the sum of $10.00 be paid the janitor of the Carnegie Library for services rendered. Upon motion duly seconded and carried the society adjourned

A. LYMAN LOWE, Secretary.

EFFINGHAM COUNTY

The annual meeting of the Effingham County Medical Society was held in the city hall of Effingham, December 10. After a short and instructive address by the retiring president, Dr. E. W. Brooks, the following officers were elected for 1913: president, Dr. D. H. Taphorn, Effingham; first vice-president, Dr. E. A. Bing, Altamont; second vice-president, Dr. S. C. Lorton, Shumway; secretary, Dr. L. C.

Bassett, Effingham; treasurer, Dr. George Haumesser, Shumway; delegate, Dr. F. Buckmaster, Effingham; alternate, Dr. E. W. Brooks, Beecher City; censors, 3 years, Dr. C. F. Burkhardt, Effingham; 2 years, Dr. F. W. Goodell, Effingham; 1 year, Dr. Geo. Haumesser, Shumway; medico-legal, Dr. E. W. Brooks, Beecher City.

The meeting was harmonious, well attended and enthusiastic. Owing to lack of time the unfinished part of the program was continued to the next regular monthly meeting, Jan. 14, 1913.

FULTON COUNTY

The 62d annual reunion of the Fulton County County Medical Society was held Tuesday, December 3d. Those present from out of town were: president, C. D. Snively, Ipava; secretary, D. S. Ray, Cuba; Drs. Jennie Parks of Cuba, P. H. Stoops of Ipava, G. S. Betts of Banner and E. O. Onion of Summum.

The program included three papers as follows: "Rheumatism of Childhood," Dr. E. O. Onion, Summum; "Follicular Tonsillitis," Dr. P. H. Stoops, Ipava; "Diabetes Mellitus, with a Clinic Presenting Surgical Complications," Dr. H. H. Rogers, Canton.

In the evening under the auspices of the society, Dr. Frank Allport, consulting physician of the Chicago board of education, delivered an address on "School Hygiene."

GREENE COUNTY

The annual meeting of the Greene County Medical Society was held in Roodhouse, Friday, Dec. 13, 1912. Meeting was called to order in the city hall at 11:30 a. m. by the president, F. H. Russell. Members present: Drs. F. H. Russell, Eldred; Howard Burns, Carrollton; L. O. Frech, W. C. Day, G. W. Burns, H. W. Chapman, F. N. McLaren, E. K. Shirley and H. A. Chapin, White Hall; E. H. Higbee, C. R. Thomas and H. W. Smith, Roodhouse.

Minutes of the previous meeting were read and approved. A letter from the president of the state society, Dr. Nickerson, was read, in which he suggested the appointment of a committee on membership in an endeavor to increase the membership of the local societies and state society, to make the Illinois State Society the largest in the association. On motion of Dr. Howard Burns the censors were appointed as special committee on membership.

The following officers were elected for the ensuing year: Howard Burns, president; E. K. Shirley, first vice-president; C. R. Thomas, second vice-president; H. A. Chapin, secretary and treasurer; censors, E. H. Higbee, J. J. Ehresmann and H. W. Smith. Adjourned for dinner at 12:30.

Called to order at 1:30 by the president. The first paper on the program was by Dr. H. W. Chapman, subject, "Labyrinthitis." The paper was especially well prepared and suggested greater care in the diagnosis and treatment of those cases. Dr. F. N. McLaren read a most excellent paper on "Arterioscelerosis." Both papers brought forth interesting discussion by the members present.

The following resolution was adopted:

Resolved, That the Greene County Medical Society unanimously petition the governor to consider the recommendations of the Illinois State Medical Society in the appointment of a new State Board of Health.

The censors reported White Hall as the next place of meeting, Friday, March 14, 1913. Essayists, Dr. Howard Burns, "Therapeutics of Iodin;" E. K. Shirley, "Management of Obstetrics in Country Practice;" C. R. Thomas, "Early Diagnosis of Pulmonary Tuberculosis." Meeting adjourned.

H. A. CHAPIN, Secretary.

IROQUOIS-FORD COUNTY

The regular quarterly meeting of the Iroquois-Ford Medical Society was held in Gilman, Illinois, Dec. 3, 1912, at the New Gilman Hotel. A very interesting and instructive program was presented.

Dr. J. Y. Shamel of Gibson City read a very interesting paper on "Injuries to the Hand." He took up in detail the minor injuries met in ordinary practice, featured the use of appropriate splints in sprains and dislocations and indicated in a clear and intelligent manner the modern treatment of septic conditions by the use of sera and vaccines. Dr. Shamel's paper deserved a lively discussion, but this was waived as a number of the members were compelled to leave early and there were a number of papers on the program.

Dr. S. R. Walker of Chebanse cited a case of an extensive burn, which overthrew the idea that 50 per cent. of the body surface cannot be burned without a fatal outcome. Dr. Walker treated this case with picric acid solution and had a complete recovery. He brought out the fact that the toxic effect of picric acid had been overestimated, as practically the whole body of this patient was swathed in bandages soaked with the solution.

Prentiss McKenzie, connected with the scientific department of H. K. Mulford & Co., of Philadelphia, read an interesting paper on the "Natural and Artificial Immunity." The essayist illustrated the lecture with lantern slides, showing the details of manufacturing all of the curative sera and bacterins. The paper was particularly pertinent as more interest is being taken at present in serum and vaccine therapy than in any other development in medicine. The bibliography on vaccine and serums is meager, and the house of H. K. Mulford is to be congratulated on its willingness to cooperate with the medical bodies in disseminating exact knowledge regarding these newer additions to the physician's armamentarium.

At the conclusion of the program the following officers were elected for the ensuing year: President, Dr. Hester, Paxton; vice-president, Dr. N. T. Stevens, Clifton; secretary-treasurer, Dr. J. L. Shawl, Onarga.

R. E. McKENZIE, President.

MADISON COUNTY

The annual meeting of the Madison County Medical Society was held in Alton, Dec. 6, 1912, and was, without doubt, enjoyed by all members present as much, if not more, than any meeting which has yet been held by the society. We received a most agreeable surprise in the talk made by Dr. Wm. Engelbach, of St. Louis. On the program it was stated that he would read a paper on the heart and its diseases. The doctor, however, appeared before the society without a note or paper of any kind and lectured for an hour and a half on the heart. All agree that this was one of the best lectures which we have heard and was even better than some of those which were delivered to us when we were in the medical schools. A unanimous vote of thanks was tendered to Dr. Engelbach for his instructive address. The election of officers for the ensuing year resulted as follows: President, Dr. Mather Pfeiffenberger; vice-president, Dr. E. A. Cook; secretary, Dr. E. W. Fiegenbaum; treasurer, Dr. R. S. Barnsback; state delegate, Dr. Lay G. Burroughs; alternate, Dr. W. H. C. Smith; medico-legal committee member, Dr. R. D. Luster; board of censors, Dr. J B. Hastings, Dr. J. Morgan Sims and Dr. F. E. Tulley. Next meeting will be held in Granite City, in January, in joint meeting with the Madison County Press Club.

E. W. FIEGENBAUM, Secretary.

MERCER COUNTY

At the meeting of November 19th Dr. Chauncey Sherrick, in his paper on "Anesthesia," reports the following conclusions:

1. The use of chloroform as the anesthetic for major and minor operations is no longer justifiable, except perhaps, in some alcoholic or other difficult subject.

2. As regards ether, the two points to be especially emphasized are that anesthesia should always be induced quickly, and throughout its duration should be as uniform as possible, as I believe that intervals of irregularity or incomplete anesthesia play a part as great, or even greater, than profound narcosis does in producing fatalities under ether anesthesia.

3. While nitrous oxid appears to afford the least injuries of all forms of anesthesia, it is also unfortunately the most expensive, and the skill required in its administration limits its use to large hospitals.

4. The day when anesthesia was supposed to require nothing more than a bottle of ether or chloroform, and a towel or some simple mask, is rapidly passing. In my judgment safety in anesthesia lies, in a large measure, in the recognition of the anesthetist as a specialist. Encouragement should be given in every city to a certain man or men to devote all or the greater portion of their time to the giving of anesthetics.

5th. It should be recognized that the welfare of the patient demands skill on the part of the anesthetist no less than that of the surgeon.

M'HENRY COUNTY

The McHenry County Medical Society held its regular meeting in the city hall at Woodstock, Ill., Friday afternoon, November 24. Dr. C. W. Barrett of Chicago was present and gave an interesting paper on a surgical subject; this was well illustrated by lantern slides. Present, Drs. J. I. Wernham and Curtis of Marengo; Dr. Brown of Hebron, Dr. Schmidt of Harvard, Dr. Stattler of Huntley, Drs. Windmuller, Smith, Seelye, Baccus, Francis and West of Woodstock.

MORGAN COUNTY

A meeting of the Morgan County Medical Society was held December 12, when an election of officers was held and other business transacted. The election follows: president, Dr. F. A. Norris; vice-president, Dr. E. F. Leonard; secretary, Dr. George Stacy; treasurer, Dr. A. L. Adams; librarian, Dr. C. E. Black; censor for three years, Dr. E. F. Baker; censor for one year to fill out the unexpired term of Dr. H. C. Campbell, Dr. D. E. Reid.

L. W. Chambers presented the society with a framed copy of a bill presented by D. O. Wallace in 1826 to Mr. Chambers' uncle, Roland Chambers. The bill showed that seventeen calls had been made, together with the date and the medicine given at each call. The calls were made in February and March, and the entire expense was $22.50, the same being settled for $20. The copy was in Latin and showed the marks of almost a century.

NORTH CENTRAL ILLINOIS MEDICAL SOCIETY

The thirty-ninth annual meeting of the North Central Illinois Medical Society, held at Pontiac, December 5, was one of the best meetings in the history of the society. LaSalle was chosen as the meeting place for 1913. The officers selected were: president, Ezra T. Goble, Earlville; first vice-president, C. C. Hunt, Dixon; second vice-president, C. D. Thomas, Peoria; secretary-treasurer, George A. Dicus, Streator; board of censors, A. B. Middleton, Pontiac; F. A. Guthrie, LaSalle; J. C. White, Seatonville; K. Hartnack, Newark, and C. A. E. LaSage, Dixon.

This medical society takes in the counties of Lee, Livingston, Bureau, Putnam, Whiteside, LaSalle, Ogle, DeKalb, Kendall, Marshall and Grundy, the total membership being between 500 and 600. The society was organized forty years ago. Dr. W. O. Ensign of Rutland, still a very active member, was one of the founders.

OGLE COUNTY

The regular meeting of the Ogle County Medical Society was held October 16 in the supervisor's room of the court house, Oregon, Ill., at 1 o'clock. The meeting was called to order by the president Dr. H. D. Houston, and the minutes of the previous meeting were read by the secretary and adopted. Roll call found the following members present: Drs. Akin, Beveridge, Beebe, Griffin, Hedberg, Johnston, Kretsinger, Shaw, Sheets and Schreiber. Visiting guests present: Drs. W. L. Karcher, of Freeport; B. A. Cottlow, of Oregon; E. L. Hendricks, Lanark; Hammett, Stillman Valley; R. McPherson, Hazelhurst; L. A. Nickerson, Quincy; S. C. Thomson, Byron; J. B. Roe, Oregon; T. H. Culhane, Rockford, and A. H. Wales, Lanark.

Literary program: Dr. L. H. A. Nickerson, of Quincy, president of the Illinois State Medical Society, read an interesting paper on "Headaches." The doctor took up most common forms of headaches. The subject was ably discussed by Drs. Wales, Hendricks, Roe, Karcher and Beveridge.

The next paper was presented by Dr. T. H. Culhane, of Rockford, on the subject of "Vaccine Therapy." This paper was well presented, was of a scholarly and scientific nature and was well received. The discussion was led by Dr. Karcher of Freeport. The doctor in a lengthy discussion advocated vaccine therapy, but not to the extent of a cure-all in all diseases, and he doubted very much if its field of usefulness would meet with a glowing success. The paper was further discussed by Drs. Nickerson, Beveridge, McPherson, Griffin, Hendricks, Wales and Shaw, Dr. Culhane to close. Dr. Nickerson gave a short talk on "Organization." The doctor is very enthusiastic in this work, and is making a strenuous effort to put Illinois in the lead of membership to state societies.

Motion made and carried, that the president appoint a committee of three on organization. Drs. Griffin, Beveridge and Akin were appointed on the committee.

Applications for membership were made by Drs. J. B. Roe and B. A. Shaw. After being approved by board of censors both were elected to membership.

A motion was made that owing to the uncertain conditions of the weather in February, we postpone our meeting until the third Wednesday in April, 1913. Carried.

On motion of Dr. Beveridge a vote of thanks was given to Drs. Culhane and Nickerson for their able papers; also thanks were given to visiting guests. Adjourned to meet in regular session the third Wednesday in April, 1913.

ROCK ISLAND COUNTY

The officers of this county society have sent out the following statement of the advantage of membership in the society and the state medical society, together with the program for the meeting which was held Tuesday, December 10, and consisted of the following:

County society membership confers, without additional cost: Social intercourse with 79 per cent. of the county's eligible practitioners. Refreshing discussions of live topics. Lectures from visiting men of high caliber. Unlimited draft, when needed, on the state society's defense fund. ILLINOIS MEDICAL JOURNAL, one of the best journals which comes to your desk. If your dues are unpaid please remit now. This will be the last meeting of the calendar year.

Program: "Short Report of Rockefeller Institute and Clinical Congress of Surgeons of North America," Dr. E. M. Sala, Rock Island; "The Influence of Suggestion on Treatment," Dr. F. H. Short, Rock Island; "Dystopic Kidney," Dr. S. C. Plummer, Chicago.

Rock Island County Medical Society met in regular session at New Harper Hotel, Dec. 10, 1912, with President Sargent in the chair. Present, members, Miller, Moore, Craig, Asay, Lowe, Johnson, Donahoo, Ostrom, First, Sargent, Chapman, Lachner, Souders, Bennett, Long, Snively, Sala, De Silva, Norman, Wright, Williams, Eyster, Eddy, Foster, Mueller, Seids, Dondanville—27. Visitors, Fairchild, Littig, Plummer, Bradford—4. October meeting minutes read and approved. Report of organization committee heard and accepted.

Ballots on applications of Drs. F. J. Otis and Alfred Tremblay resulted favorably in each instance, Drs. Lachner and Bennett serving as tellers. Ballot on transfer application of Dr. H. A. Beam was unanimous and the name ordered placed on our roster. Dr. Eyster made request of members for information concerning early medical history of Rock Island County. Application of Dr. E. H. Stone of Watertown was presented and Drs. Johnson, Donahoo, and Chapman appointed as committee to investigate. Drs. Sala and Bennett were appointed committee to draw up resolutions concerning the death of Dr. W. O. Beam. Dr. F. B. Clarke's resignation as second vice-president was heard and accepted, Dr. Clarke having removed from the county. Resolutions bearing reference to an Illinois medical school were adopted and Drs. Ostrom and First appointed as committee to work up the matter. Druggists' committee (Rock Island County Retail Druggists' Association), Gentlemen, Brunstrom and Walker, were entertained and a committee, Drs. First, Bennett, and Johnson, was appointed to confer with them regarding advisability of and plans for a "Get-together" meeting. Malpractice suit against Dr. W. H. Ludewig was referred to by Dr. Sala, and secretary instructed to communicate with Dr. Ludewig and with the Illinois Medical Society regarding defense. Bills allowed: Julius Staach & Sons, $5.00 (flowers, Beam funeral); Stanley Printing Concern, $2.25; Manufacturers' Hotel Co., $22.25; East Moline *Herald*, $1.25.

Clinical cases reported by Drs. Ostrom and Dondanville, the first, a hemophilic attack, treated with diphtheria antitoxin in the absence of any other blood-serum preparation; and the second showing an immense fibro-osseous specimen of rapid growth following injury to periosteum and muscle tissue. Dr. Ostrom demonstrated a most highly creditable instrument devised by himself for the tieing by shot ligature of blood-vessels in difficult locations—notably tonsillar. The papers of Drs. Sala, First and Plummer constituted the main program of the evening. Each showed the kind of effort and interest that go to make society meetings worth while. Dr. Sala gave an excellent account of a visit to Rockefeller Institute and attendance at clinical congress of surgeons of North America. Dr. First laid open the subject, "The Influence of Suggestion on Treatment," with an individuality which showed work and an understanding of practical therapeutic application. The discourse of Dr. S. C. Plummer of Chicago was absolutely good, and was one which, in point of instructiveness, is easily desirable for societies of wider range. Dr. Plummer is of the opinion that we will hear more concerning "Dystopic Kidney." Discussion was participated in by Drs. Eyster, Sala, Littig, Fairchild and Sargent. Dr. Plummer was tendered a deserved rising vote of thanks. Adjournment taken until February.

W. D. CHAPMAN, Secretary.

SALINE COUNTY

After being practically dissolved for the past four years, the Saline County Medical Association was reorganized at an enthusiastic meeting of physicians and surgeons held at Harrisburg, December 10. The first meeting was in the office of Dr. A. J. Buttner and was later transferred to the office of Dr. J. V. Capel. The large attendance was very encouraging to the surgeons and the association will henceforth glide along successfully.

The following officers were elected: president, M. D. Impson, Brushy; first vice-president, John C. Hicks, Eldorado; second vice-president, J. V. Capel, Harrisburg; secretary-treasurer, E. W. Cummins, Harrisburg.

The following standing committees were also selected: program, Drs. C. W. Turner, John C. Hicks and R. B. Nyberg; by-laws, Drs. Thos. A. Jones, W. J. Blackard and H. L. Thompson; printing, Drs. J. R. Baker, O. N. Gibson and F. L. Ozment; reception, Drs. J. V. Capel, R. G. Bond and B. L. Garris; fees, Drs. F. M. Robinson, F. M. Hart, O. N. Gibson, D. A. Lehman and Aud. Garrison; censors, Drs. W. S. Swan, Aud. Garrison and R. L. Kane.

The next meeting of the association will be held on Wednesday, Jan. 15, 1913, at which time all members are requested to be present.

SANGAMON COUNTY

The semi-monthly meeting of the Sangamon County Medical Society was held Monday, November 25, at Springfield, and consisted of a clinic by Dr. E. Wyllis Andrews of Chicago, at St. Johns Hospital, and a banquet in the evening at the St. Nicholas Hotel at which Dr. Andrews told of the new operation for emphysema. Dr. Andrews gave a description of the Freund operation for this disease, which consisted of exsection of the costal cartilage of four ribs on one side.

VERMILION COUNTY

The annual dinner and business meeting of the Vermilion County Medical Society was held Monday, Dec. 9, 1912, at the Plaza Hotel, Danville, Ill. Immediately following the conclusion of the dinner the gentlemen retired to the Council Chamber of the City Hall where the business session was held. The feature of the meeting was the address of the retiring president, Dr. L. B. Russell, of Hoopeston, who talked most interestingly of the forward movement in medicine and surgery, and the progress made by the local society and the profession in general.

A set of resolutions was adopted in which endorsement was given the proposition before the state legislature to establish a Department of Medicine at the University of Illinois.

The election of officers for the coming year resulted as follows: president, Dr. Frank M. Mason, Rossville; vice-president, Dr. H. F. Dice, Ridgefarm; secretary-treasurer, Dr. Solomon Jones, Danville; censor, Dr. O. H. Crist, Danville; delegate, Dr. Solomon Jones, Danville; alternate delegate, Dr. L. B. Russell, Hoopeston.

Retiring vice-president Dr. F. W. Barton escorted the president-elect, Dr. Mason, to the chair, where he delivered a brief address, after which the meeting adjourned.

NEWS OF THE STATE

NEWS ITEMS

—The Graham Hospital, of Canton, according to reports, will soon be self-sustaining.

—Dr. George J. Spencer and Dr. Francis Conroy, of Chicago, have opened up offices at Sterling, Ill.

—Dr. William Patch, formerly a practitioner of Coleta, was recently committed to hospital at Watertown.

—Dr. John L. Shaw, formerly of Martinton, Ill., recently of Chicago, was convicted in Judge Burke's court on a charge of bigamy.

—Dr. W. D. Fowler, of Cooperstown, shot and seriously wounded Samuel Bradbury. Bradbury is said to have sent threatening letters to Dr. Fowler.

—Dr. R. D. Luster, of Granite City, deputy coroner of Madison County, is seeking appointment as a member of the State Board of Health, under the new Governor.

—The sum of $5,000 has been appropriated by the Kane County Board of Supervisors for the purchase of ground and buildings to be used as a tuberculosis sanitarium. The site of the sanitarium is between St. Charles and Geneva.

—Dr. W. E. Clay, of Mt. Carroll, being a close bidder for the position of county physician of Carroll County, was given the job; his bid this year was $150, last year he received $99 for his services. Drs. Rhinedollar and Rice each had a bid in for $200.

—Dr. George W. Bradley, of Waverly, aged 80 years, was placed in the Morgan County jail accused of the attempted murder of Frank Wyle, a jeweler of that city. Dr. Bradley shot the jeweler for alienating the affections of his wife. Mrs. Bradley is thirty years younger than her husband.

—Dr. Hugh H. Atkinson, who says he practiced for a time at Woodlawn, Ill., was recently arrested at St. Louis for begging on the streets, and in an interview with a *Post Dispatch* reporter, states that his fall from prosperity and a $6,000 year practice was caused by the use of morphin.

—Dr. Lewis H. Behrens, of Westminster Place, St. Louis, recently elected president of the St. Louis Medical Society, was born 44 years ago at Gillespie, Ill., attended school at that place and Shurtleff College at Upper Alton, graduated in pharmacy and medicine at St. Louis and is one of the best known physicians in that city.

—Dr. H. W. Powers has resigned his position as Medical Superintendent of the Kenilworth Sanitarium, Kenilworth, Ill., to engage in general practice in Wilmette, Ill. The position made vacant at the Kenilworth Sanitarium by Dr. Powers' resignation has been filled by the

appointment of Dr. Sherman Brown, formerly Assistant Physician of the Kings Park State Hospital at Kings Park, Long Island, New York.

—Dr. C. C. Hunt, of Dixon, after almost fifty years of practice, forty-five of which were in Dixon, has retired from his medical work and moved to Seattle, Wash. In his new home Dr. Hunt expects to pay attention to the loan and abstract business and solicits correspondence from his old friends in Illinois who have money to loan at a good rate of interest. We call attention to his advertisement in another column.

—Dr. Grace Jerger, who states that she has been a member of the Illinois State Medical Society, but for several years has been living at Waterloo, Ia., placed her application for membership in the Blackhawk County Medical Society of that state, where it was tabled. She has appealed her case to the judicial council stating her belief that the only reason for which she is denied membership in the local society is her association with her husband, Dr. J. A. Jerger, who is not a member of the local society, and has been conducting a private hospital in Waterloo.

—Greene Vardiman Black, M.D., D.D.S., dean of the Northwestern University Dental School, has been awarded the Miller Prize of the International Dental Federation, established by subscription from twenty-six different countries of the world. The prize is a gold medal weighing about sixteen ounces, and was delivered in person by Floristan Aguilar, of Madrid. It was awarded to Dr. Black in recognition of his original work and discoveries in many branches of dental science. Dean Black has long been known as the most distinguished exponent of dental art in the world, and this unique honor is conferred by his colleagues in several countries of the world, and will serve as a capstone of the numerous distinctions conferred on him in the last few years. Dean Black is the father of Dr. C. E. Black, of Jacksonville, and Dr. Arthur D. Black of the Northwestern Dental School, Chicago.

—The Decatur Medical Society met at Decatur, in the Citizen's Title & Trust Company Building, November 26. The subject of the discussion at the meeting was "Acute Anterior Poliomyelitis, or Infantile Paralysis." Dr. R. L. Morris presented a report on the subject citing as an example the case of his own child who was recently afflicted with the disease. Dr. C. Martin Wood also presented a case. The subject of "Contract Work in the Practice of Medicine and its Results" was discussed by Dr. O. Wilhelmy, who for several years was a physician at La Place, and went from there to Salida, Col., where he had contracted to buy the practice of a contracting physician in that place, but found the business to be worthless. He cited illustrations from his own experience. A special business meeting was held after the discussions, for the purpose of making changes in the by-laws of the society.

PERSONALS

Dr. Edward A. Fischkin desires to announce his return from Europe.

Dr. Julius Grinker, of 32 North State Street, has returned from Europe.

Dr. J. Morgan Sims, of Collinsville, was elected Coroner of Madison County.

Dr. O. J. Gwynn, of Granite City, has sold out and removed to New York City.

Dr. John Hrabik will open up an office for the practice of medicine at Murphysboro, Ill.

Dr. Arnold Reagan, of Canton, has bought out Dr. Carl Turner, of Brereton, and will locate there.

Dr. H. C. Parker, of Freeport, has opened an office at Pecatonica, where he will practice his profession.

Dr. R. D. Luster, of Granite City, has been appointed Deputy Coroner of Madison County at a salary of $600 a year.

Dr. C. C. Ellis has been transferred from the Peoria State Hospital to the Chicago State Hospital at Dunning, Ill.

Dr. George Parmenter, of Bellmont, has removed to Johnson, Ind., where he will take up the practice of his profession.

Dr. H. M. Dally, of Pontiac, Ill., is in a hospital in Chicago, where he underwent an operation for cancer of the stomach.

Dr. J. B. Shawgo, a prominent physician of Quincy, was declared of unsound mind and taken to the State Hospital at Jacksonville.

Dr. William Major, the newly elected county physician of Peoria County, will retain Dr. C. E. Scullin as assistant county physician.

Dr. D. Dennison Kirby has opened up offices in the Jefferson Building, Peoria, Ill. His practice will be limited to genito-urinary diseases.

Dr. Robert H. Rae, of the medical staff of the Chicago State Hospital at Dunning, has been appointed to take the place of Dr. F. B. Clark, resigned.

Dr. Wm. R. Smith, recently from Roundup, Mont., has located in Granite City, having bought the office and fixtures of Dr. Gwynn. Dr. Smith formerly lived and practiced in Alton.

Dr. F. B. Clark has resigned his position as acting superintendent of the Chicago State Hospital, and has accepted a position on the staff of the Sacred Heart Sanitarium, Milwaukee, Wis.

Dr. A. J. Markley, of Belvidere, is at Mercy Hospital, Chicago, where he will undergo an examination to determine the exact nature of an ailment with which he has been suffering for some time.

Dr. W. A. Haskell's yacht, Onatoga, was rammed by a mussel barge during a fog on the Illinois River, near Kampsville. The doctor and his guests were badly shaken up, but not otherwise injured.

Dr. William A. Halbert, of 1027 W. Washington Street, Springfield, Ill., has moved to Chicago, where he will enter on the practice of medicine with his brother-in-law, Dr. John B. Miller of that city.

Drs. Black and Weis visited Peoria November 24 and conferred with Drs. Bacon and Collins and Mr. Evans, secretary of the association of commerce, as to arrangements for the coming meeting of the state society.

Dr. William H. Ludewig, who is retiring from active medical practice after twenty-five years of continuous practice in Rock Island, and who is preparing to move to Foley, Ala., was the guest of honor at a dinner

given him at the New Harper Hotel, December 3, by the physicians of Rock Island.

Dr. Charles W. Hall, of Kewanee, who has been practicing in that city for twenty-five years, and has been active in county and state society work, has accepted a position as assistant to the chief surgeon of the Chicago, Milwaukee and St. Paul Railroad, and will locate in Seattle, Wash. Dr. Hall was also interested in military affairs, and for many years was captain of the local military company.

INJURIES TO DOCTORS

Dr. Barbee, of Sidney, Ill., was injured in a runaway at that place, being badly shaken up and bruised.

Dr. T. C. Hayes, of Canton, injured his foot by accidentally tipping over an engine leaning against the wall in a garage, where he had driven his car.

Dr. Mabel Blake Phelps, of Danville, was nearly asphyxiated by gas at her home. The fortunate arrival and quick action of her husband saved the physician from death.

Dr. E. Deichman, of Keyesport, Ill., was seriously injured in a runaway, when the horse he was driving became frightened at an automobile, overturned the buggy and threw the doctor out; he sustained a broken collar bone and other injuries.

Dr. L. J. Hammers, of Lexington, was seriously injured when the steering gear of his car broke, plunged into a ditch and turned over on him, pinning him fast until a passerby discovered his predicament and released him. His back was badly wrenched besides other cuts and bruises.

REMOVALS

Dr. O. J. Ruth has removed from Tolono to Colchester.

Dr. R. J. Stiver has removed from Lena, Ill., to Freeport.

Dr. T. W. Ashley has removed from Springfield, Ill., to Newark, O.

Dr. Maupin, of Dwight, Ill., has removed to Salt Lake City, Utah.

Dr. R. Lacey Eddington, has removed from Springerton to Bement.

Dr. N. B. Ackley has removed from Colchester to Big Sandy, Mont.

Dr. J. W. Robinson has removed from New Berlin to Springfield, Ill.

Dr. George A. Lierly has removed from Beverly, Adams County, Ill., to New Berlin.

Dr. R. O. Broadway has removed from Odin to Penfield where he has purchased the practice of Dr. J. W. Moreland.

Dr. G. M. Illingsworth, of 810 W. North Avenue, Chicago, Ill., has removed to 919 Arme Avenue, Los Angeles, Cal.

PUBLIC HEALTH

—Dr. George T. Palmer, of Springfield, addressed a meeting which was given under the auspices of the Livingston County Anti-Tuberculosis Society and the Federation Clubs, at Pontiac recently. He delivered a strong plea for a fight against typhoid fever and tuberculosis.

—Dr. William E. Quine, of Chicago, addressed a meeting which was given under the auspices of the Winnebago County Anti-Tuberculosis Society, November 27, at Rockford. A business session was also held and the following officers were elected to serve three years: Dr. Daniel Lichty, Dr. M. R. Harned, Dr. Anna Weld, Dr. W. H. Fitch, Dr. J. E. Tuite, H. S. Hicks, Miss Julia Gulliver, Miss Mary I. Beatty and W. H. Gaffney. The directors have decided to affiliate with the state anti-tuberculosis society.

—At a meeting held in Chicago, December 3, the Illinois State Association for the Prevention of Tuberculosis elected the following officers: president, Dr. W. A. Evans, Chicago; vice-presidents, Drs. O. T. Hardesty, Jacksonville, and Geo. T. Palmer, Springfield; treasurer, David R. Forgan, Chicago; attorney, Chas. L. Allen, Chicago; members of central committee, Dr. Theodore B. Sachs, Chicago, and Mr. Louis C. Coleman, Springfield. A plea for a sanitarium for the care of colored tuberculosis patients was made by Dr. Wm. G. Alexander, of Evanston.

—The annual meeting of the Livingston County Anti-Tuberculosis Society held its meeting Tuesday, November 26, in the office of Dr. A. B. Middleton at Pontiac. The following officers were elected for the ensuing year: president, Dr. P. A. Pyper, Pontiac; vice-president, Mrs. Isaac Walton, Fairbury; secretary, Mrs. F. J. Spaulding, Pontiac; treasurer, C. R. Tombaugh, Pontiac. A committee composed of business men appeared before the Livingston County Board of Supervisors during its summer session with a proposition for the erection of an addition to the county house for the exclusive use of tuberculosis patients. The Board of Supervisors referred the matter to a committee and it is expected that during the coming year favorable action will be taken regarding the proposition. The treasurer's report showed receipts for the past year $305.91, with expenditures of $107.10, leaving a balance on hand of $198.81. The Red Cross Christmas seals, which is the principal means employed by the society in raising funds, have been placed on sale.

MARRIAGES

E. CAULDWELL, M.D., of Joliet, to Miss Kathryn Smollen, of Lemont, November 28.

GRAMBOW THOMSEN VON COLDITZ, M.D., to Miss Ruth Ware, both of Chicago, December 3.

JOSEPH C. FRIEDMAN, M.D., to Miss Beatrice Shaffner, both of Chicago, November 12.

CALVIN EDGAR BROWN, M.D., to Miss Leila Haerther, both of Chicago, December 6.

J. V. STEVENS, M.D., of Chicago, to Miss Isabel Strawser, of Janesville, Wis., on November 1.

H. H. TUTTLE, M.D., of Springfield, to Miss Mae L. Suddick, of Joliet, December 15, 1912, at Ottawa, Ill.

W. E. COULTER, M.D., of Seneca, was united in marriage November 22 to Miss Edith Pennewill, of Washington, Ill.

DEATHS

JOHN H. STEIN, M.D., St. Louis Medical College, 1876; for twenty years a practitioner of Mackinaw, Ill., died December 10, aged 62 years.

JOSEPH W. KITTEN, M.D., Jenner Medical College, 1906; died at his home in Chicago, November 2, from pneumonia; aged 44.

CELESTIA D. MESSENGER, M.D., of Brooklyn, N. Y., formerly of Chicago, died very suddenly of lung trouble at that place, December 2, 1912.

THOMAS WESLEY SHASTID, M.D., of Pittsfield, died December 6, 1912, at the Augustana Hospital, Chicago, Ill., aged 80 years. Death was the result of abscess of the hip and complications.

C. B. WESTBROOK, M.D., a practitioner near Eldorado, Ill., until eight years ago, died at the home of his daughter at Murphysboro, Ill., December 6, 1912, aged 73 years, 6 months and 23 days.

MERCHANT CHARLES FARGO, M.D., Rush Medical College, Chicago, 1912; intern in the House of Correction Hospital; died November 26, from shock, two days after an operation for hernia; aged 27.

HERBERT W. MOOREHOUSE, M.D., chief surgeon of the Wabash System for the last thirty years, died at his home in Danville, Ill., December 21, 1912; aged 70 years. Death was caused by cancer of the esophagus.

WILLIAM CAMPBELL (license years of practice, Illinois, 1878); for many years a practitioner of Equality, Ill.; died at the home of his son in Danville, Ill., November 20, from accidental strangulation; aged 70.

HARRY MILTON FERGUSON, M.D., Rush Medical College, 1890; of Morris, Ill.; a member of the American Medical Association and secretary of the Grundy County (Ill.) Medical Society; died November 19, from rheumatism; aged 43.

SIMON S. WILCOX (license years of practice, Illinois, 1877); a veteran of the Civil War; for half a century a practitioner of Hutton Township, Vermilion County; died in the Soldier's Home, Danville, Ill., November 27, from senile debility; aged 87.

ABRAHAM FOX, M.D., of Danville, died at St. Elizabeth's Hospital, November 28, from acute nephritis, following an operation for hernia; aged 52 years. Members of the Vermilion County Medical Society, of which he was a member, attended the funeral in a body.

WILLIAM DAVID HUMPHREY, M.D., of Virginia, died December 4 after five weeks of suffering from injuries received in a runaway accident. He was born in Jacksonville, January 3, 1865. He was a graduate of the Jacksonville High School, Illinois College and Northwestern University, Chicago, and had been practicing in Virginia since 1887. His wife and one son survive.

WILLIAM G. MAGUIRE, M.D., aged 99, father of twenty-three children and married three times, died at his home in Tuscola, November 29. He was born in Estelle County, Kentucky, August 4, 1813, and was a practicing physician for twelve years, but not being licensed, received only $1.75 for services in that period. He owned the first kerosene lamp in Douglas County, and persons from miles around flocked to see the extraordinary light it gave; oil at that time was 60 cents a gallon.

THOMAS M. BUTLER, M.D., of Rockford, Ill., died at his home in that city November 28, of paralysis, aged 80 years. He was born in Lycoming County, Pennsylvania, June 21, 1833. After attending the common schools he continued his studies at Bloomsburg academy and Lewisburg University, and graduated from Cincinnati Medical College in 1857. Dr. Butler was a member of the A. W. Rawson Lodge of Masons, and also of the Knights Templars, serving ten years as prelate.

WILLIAM M. GROSS, M.D., an old and prominent physician of Gillespie, Ill., died at his home in that city December 18, 1912, aged 70 years. He was born March 24, 1842, in Bollinger County, Mo. In 1866 he began the study of medicine at Walshville, Montgomery County, Ill., under Dr. M. S. Davenport; five years later went to Keokuk, Ia., where he completed the prescribed course, and in 1875 graduated from the College of Physicians and Surgeons; he then practiced in the village of Hornsby till he moved to Gillespie, where he resided until his death.

ALICE B. STOCKHAM, M.D., at one time a practitioner in Chicago, died at Los Angeles, Calif., December 3, 1912. Dr. Stockham graduated at the Eclectic College in Cincinnati, 1854, and took another degree from the Chicago Homeopathic College. She held peculiar views on the social purity problem, and took up with the new thought movement, which spread over the country in the 80's; she wrote a pamphlet which caused her arrest and conviction for the misuse of the mails. Broken by the shock of the experience she is said to have crept from the field and retired to California, where her death occurred.

Book Notice

THE PRINCIPLES OF HYGIENE. A Practical Manual for Students, Physicians and Health Officers. By D. H. Bergey, A.M., M.D. Assistant Professor of Bacteriology, University of Pennsylvania. Illustrated. Third edition, revised and enlarged. Octavo of 555 pages. Philadelphia and London: W. B. Saunders Company, 1912. Cloth, $3.00 net.

Although this book is a third edition, it may almost be considered as new, so numerous are the changes introduced. Indeed, hygiene is making such strides that four years are sufficient to transform many of its fundamental features. We note in the present volume a considerable extension of the subjects of sewage purification, the mode of transmission of various diseases—plague, malaria, yellow fever, etc.—the defensive functions of the body and the means to enhance them, bacterial therapy and prophylaxis, etc. The wide scope covered by the work gives it great value not only for the practicing physician and the hygienist and sanitary officer, but also for sanitary engineers and architects. To all these we can heartily recommend Dr. Bergey's book.